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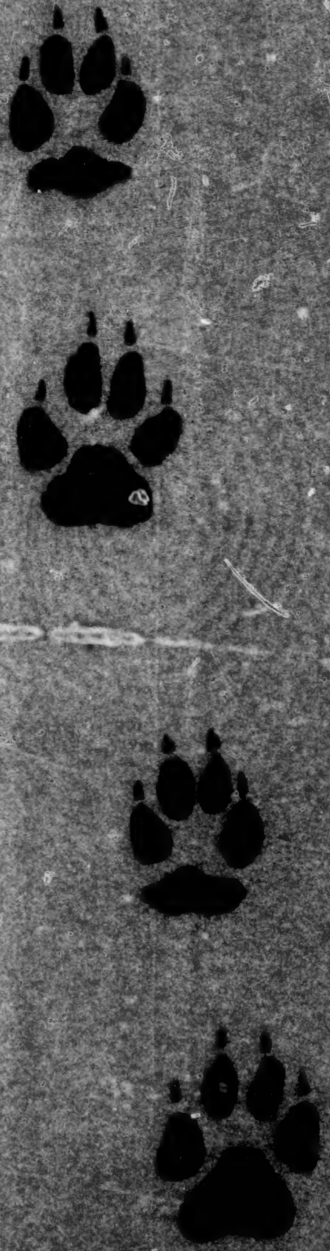
INDICES OF PREDATOR ABUNDANCE IN THE WESTERN UNITED STATES

1981

ORIGINAL

COMPLETED
910



14 OCT 1982

Data Collected By:
Pocatello Supply Depot
Division of Wildlife Management
Animal Damage Control
U.S. Fish & Wildlife Service
U.S. Department of the Interior
with the assistance of the Division of
State and University Cooperators

U.S. Department of the Interior
U.S. Fish & Wildlife Service
Division of Wildlife Management
Pocatello Supply Depot
Pocatello, Idaho 83201

INDICES OF PREDATOR ABUNDANCE
IN THE WESTERN UNITED STATES

1981

Coordinated by
Jerry R. Bean

This is a progress report, not a formal publication. Statistical analysis and interpretation of the data are tentative and incomplete and are not for scientific publication.

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ABSTRACT

Results of the tenth and final annual survey of relative predator abundance in the western United States are presented along with graphs depicting trends in coyote indices by states. The data are intended to reflect year-to-year changes in visitation indices for various predators particularly coyotes, attracted to standardized scent-station lines. The method is not designed for estimation of the number of individuals per unit area for any predator species, differences in abundance between predator species inhabiting the same area, or difference in relative abundance of a single species in different areas. Conclusions and interpretations based on results from small groups of lines are inappropriate and statistically unsound.

Analysis of the last ten years of data (1972-1981) indicates that the overall coyote visitation index for the western United States increased 10% between 1972 and 1973, and again between 1973 and 1974. At a probability level (P) of 95% (5% risk of error) both changes were statistically significant. Between 1974 and 1975 it decreased 5% (P=80%), between 1975 and 1976 it decreased a further 7% (P=90%) and between 1976 and 1977 14% (P=99%). Between 1977 and 1978, the overall index increased 4% (P=50%). The low probability reflects a balance between sizable increases in some states and decreases in others. Comparing 1978 with 1979 an increase of 3% is seen (P=55%), while 1980 showed a decrease of 2% (P=44%) and 1981 a decrease of 3% (P=59%). These recent results appear to represent a stable coyote trend in the west.

Two states showed changes in statewide coyote indices above the 95% level of probability often applied to biological data: Idaho (97%) and Oklahoma (97%). Among the remaining 18 states involved in the survey, 12 showed nonsignificant decreases 5 showed nonsignificant increases and one lacked enough lines for statewide comparisons.

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TABLE OF CONTENTS

ABSTRACT iii

INTRODUCTION 1

Methods 2

RESULTS AND DISCUSSION 4

ACKNOWLEDGEMENTS 5

SURVEY LINE MAPS AND TABLES 15

- ARIZONA 15
- CALIFORNIA 21
- COLORADO 27
- IDAHO 31
- ILLINOIS 35
- KANSAS 37
- MINNESOTA 41
- MONTANA 47
- NEBRASKA 51
- NEVADA 55
- NEW MEXICO 59
- NORTH DAKOTA 65
- OKLAHOMA 69
- OREGON 73
- SOUTH DAKOTA 77
- TEXAS 81
- UTAH 89
- WASHINGTON 93
- WISCONSIN 7
- WYOMING 99

APPENDIX A: Field procedure instructions and observation forms 103

INTRODUCTION

This report contains the results of the tenth (and last) annual survey (1981) of relative predator abundance in the western United States. The major objective of the survey is to obtain data concerning the current distribution and status of certain predators, particularly the coyote, and to assess predator population trends. These data may also serve to detect coyote population responses, if any, to control efforts (or lack thereof), and relationships (if such exist) between the relative abundance of the coyote, predation on livestock, and livestock husbandry practices. In addition, the survey may provide simultaneous changes in other carnivore populations in the same areas. To date, such responses and changes could be interpreted only in a very general sense; survey method modifications are needed to permit interpretations precise enough to serve management needs.

The current methodology of this survey permits us to detect and apply statistical probabilities to apparent year-to-year changes in predator populations within broad areas only, such as entire states or regions. It is not intended as, and is not useful for, a census method, nor can the technique be employed to detect annual trends using small groups of standard survey lines. Therefore "relative abundance," as used here does not refer, except broadly, to differences in numbers of a given species in different locations (because of the myriad environmental variables that undoubtedly influence the results of the survey), nor does the term refer to differences in numbers between cohabiting species (because the method employed does not uniformly survey all species involved).

Essentially, we are counting the number of visits1/ by certain species attracted to standardized, artificial scent stations. Neither the number of individuals responsible for a given number of visits, nor the proportion of individuals of a species in an area visiting a scent-station line is known. Furthermore, we cannot delimit the land area surveyed by such lines, although we can speculate that this area varies greatly both between species (because of factors such as differential mobility, activity, sensory ability, social behavior, etc.) and within species (because of environmental variables such as food base, population density, physiography, weather, etc.).

Our belief that the survey is capable of measuring "relative abundance" rests on the assumption that the relationship between the visitation rate and the density of a given species is sufficiently consistent for the index to provide reliable and useful information. We are currently engaged in research to answer questions regarding the reliability and sensitivity of the survey method.

Such research has led to a number of recommendations for modifying the survey method to make it more sensitive to statewide changes and permit interpretation

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1/ Even "visit" must be carefully defined: Since it is impossible, in many cases, to distinguish the number of individual animals leaving tracks at a scent station. Hence, only one visit per species per scent station per night can be tallied.

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of results for more localized areas.

METHODS

The procedures employed in the survey (Appendix A) were the same as in 1980. Each survey line consisted of 50 scent stations located immediately adjacent to the edge of an unpaved road and 0.3 mile apart along a continous 14.7 mile route. In a few cases, it was necessary to interrupt the line for a short distance when continuous full-length routes were not available. Each scent station consisted of a 3-foot circle of sifted earth in the center of which was placed a small perforated plastic capsule supported approximately 0.5 to 1 inch above the surface by a small stick. Capsules were filled with about 1 gram of FAS attractant and were consecutively numbered. The stations were alternated between left and right sides of the roads to reduce the influence of prevailing winds. Capsules that were carried off or destroyed by animals, clogged with blowing dirt, or washed out by rain, were replaced daily as needed.

Weather permitting, scent-station lines were checked daily for 4 successive days and animals visits (based on tracks) were recorded. At stations visited or disturbed by larger mammals (carnivores, cows, deer, etc.), the ground was smoothed over each day so that new tracks could be distinguished on succeeding days. Since it was usually impossible, on the basis of track size, to ascertain if more than one carnivore (of the same species) visited a given station on a given day, observers were instructed to merely indicate "coyote visit", " red fox visit", "no visit", etc. It was also impossible to determine if individual animals visited two or more stations during any one 24-hour period (or successive 24-hour periods) or the frequency with which this occurred. Other data recorded for each survey line were daily weather conditions: stations destroyed by cows, human interference, or weather (rain, wind, etc.); topography, principal land uses; major vegetative characteristics; and a qualitative estimate of the degree of predator control activities, if conducted.

Indices of visitation by species were obtained for each survey line by totaling the number of stations visited by each species for the 4 nights. The total number of "scent-station nights" was derived by subtracting from a maximum of 200 station nights (50 stations x 4 nights) all of those that were inoperable because of weather, human interference, or animal interference (e.g., cows, etc.). In this context, an "inoperable" station was one for which predator tracks, if present could not be distinguished. The index was calculated as follows for each species of interest:

$$\frac{\text{TOTAL NO. VISITS}}{\text{TOTAL NO. OPERABLE STATION NIGHTS}} \times 1{,}000 = \text{INDEX}$$

For example, a line with 30 coyote visits and 185 operable scent-station nights resulted in an index of 162 (30/185 x 1,000 = 162).

Tracks of the following carnivores were observed and recorded at scent stations: opossum, black bear, raccoon, ringtail, weasel, mink, badger, civet cat, skunk, red fox, kit fox, gray fox, coyote, gray wolf, dog, mountain lion, bobcat, and house cat. Tracks of armadillos and javelinas were also tabulated. Because these survey lines were designed and positioned primarily for coyotes, use of the data to determine trends for other species, particularly noncanids, may be questionable as each species has characteristic movement patterns and habitat preferences.

Upon completion of field aspects of the survey, all data were sent to the Pocatello Supply Depot where they were edited according to rigorous prescribed standards, transcribed to punch cards, and subjected to a series of computer programs to verify, summarize and analyze the 1981 survey data and to estimate the probabilities associated with changes in the statewide coyote indices from 1980 to 1981.

In the probability computation the test statistic is a principle called Fisher's Method of Randomization. The essence of Fisher's idea is that any set of n observations may be regarded "as but one number of a whole family of distinguishably different sets of n observations having the same absolute magnitudes but differing with regard to algebraic signs, 'locations', or both. Within this family of distinguishably different sets of data will be a family of sets, all of which, if the null hypothesis and all assumptions are true, had the same a priori probability of being drawn as the obtained set" (Bradley 1968).

Assuming that if the values observed really come from the same population, then each observation can take the value of any other observations in the set. This is true whether you are comparing the means of indexes from two different areas or, as in this case, the means for each area at two points in time. By permuting the values in N! possible ways an exact probability can be calculated for the data. We have adapted a program to the computer at Utah State University and obtained the probabilities reported here.

If the reader wishes more information on Fisher's principle, refer to the literature list at the end of the Results and Discussion which follows.

RESULTS AND DISCUSSION

Statewide surveys were carried out in 17 states. In addition, two lines were run in Wisconsin, and five in Montana, but were not adequate for characterizing statewide predator trends.

Most lines were run by personnel of the U.S. Fish & Wildlife Service' Animal Damage Control program with assistance from the Division of Refuges, Research and extensive participation by university and state game department cooperators.

The 1981 survey was conducted at about the same time as in 1980, with most lines in operation during the target week beginning September 14th and a few within two weeks before or after the target week. Such synchronization is desirable to enhance the comparability of yearly results.

With some exceptions, survey lines run in 1980 were run again in 1981 and new lines added. Of a total 541 that have been run between 1972 and 1981, 85 have been permanently deleted (due to road improvement, change of land ownership, lack of personnel in area, etc.), 64 were interrupted by weather and 131 were discontinued for other reasons. The remainder, a total of 393, was run successfully in 1981 (Figure 1), as compared to 361 in 1980, 325 in 1979, 370 in 1978, 408 in 1977, 412 in 1976, 393 in 1975, 367 in 1974, 354 in 1973 and 328 in 1972. As in prior years, with the exception of Montana and Wisconsin, approximately one line was run for each 5,000 miles of land area within each state. The distribution of survey lines in 1981 is shown in Table 1.

Over a period of years, some lines are inevitably deleted and others added as replacements. Because valid comparisons of yearly results can be made only between groups of lines run each year, attrition and addition of lines reduces the basis for comparison. Therefore in this report, statewide yearly comparisons (Figure 2) are based on indices from only those lines run for both years in question and, as a result, 1981 statewide indices cannot be compared directly with 1972-1979 indices.

A statistical comparison for all states surveyed, of the ten years data in hand, indicates that overall coyote visitation rates, following small but significant increases in 1973 and 1974, decreased in 1975, 1976 and 1977, and did not change significantly in 1978, 1979, 1980 and 1981.

Statewide changes in coyote visitation rates (indices) between 1980 and 1981 varied from 38% to 88% but only two states showed change at or above the 95% probability level: Idaho (88%, P=97%) and Oklahoma (-19%, P=97%). Five other states showed increases and twelve decreased, but none at a significant level. The Montana and Wisconsin data have no statewide implication since there are not enough lines run every year in these states.

Trends in coyote indices the past ten years are shown by state in Figure 3, with the final graph depicting the westwide trend. In each graph the vertical placement of the trend line was adjusted so that the mean of the yearly data points equals the grand mean (derived from all lines run in all years for each state), rather than using the statewide index for the initial year as the reference point. Year-to-year changes are based on percent changes for lines run in both years being compared. Because the overwhelming majority of these changes have less than statistically significant probabilities, these graphs should be interpreted with caution.

Figure 4 explains the derivation of the data in the computer printouts which tabulate the following:

1. Total operable scent station nights for each state
2. Total animal visits to scent stations, by line and state
3. Visitation indices, by species, for each line and state

An outline map indicating the approximate survey line locations and 1981 coyote indices precedes the computer printout for that state. On these maps, the symbol "DL" mean that the line has been permanently deleted, "RO" means rain or other weather conditions interrupted the successful completion of the lines, "NR" means the line was not run (usually because of personnel, funds, or gas shortages), and "ND" means that no data were received.

For the benefit of those not familiar with the field methods of the survey, a set of instructions and observation forms are included as appendix A.

ACKNOWLEDGEMENTS

Thanks are due to the many individuals from state game fish agencies, various universities, the Animal Damage Control program and the Divisions of Research and Refuges who participated in or helped to coordinate this survey. James A. Kniffen assisted greatly in material preparation, Connie Brown invaluable aid in text preparation and Robert D. Roughton facilitated the computor analyses.

Table 1. Distribution of predator survey lines in 20 states, 1981.

State	Square miles	Number of lines		State	Square miles	Number of lines	
		Established	Run			Established	Run
Arizona	113,909	43	26	New Mexico	121,666	34	17
California	158,693	38	29	North Dakota	70,665	19	15
Colorado	104,247	25	20	Oklahoma	69,919	18	16
Idaho	83,557	20	18	Oregon	86,981	25	23
Illinois	56,400	11	6	South Dakota	77,047	25	11
Kansas	82,276	24	20	Texas	267,339	63	43
Minnesota	84,068	44	34	Utah	84,916	20	18
Montana	147,138	33	6	Washington	68,192	19	11
Nebraska	77,227	29	21	Wisconsin	56,154	6	2
Nevada	110,540	22	16	Wyoming	97,914	23	20

Table 2. Trend in Coyote visitation rates, western United States, 1981.

	No. of Comparable lines	Avg. index for comparable lines		Percent change	Probability[b]
		1st yr.	2nd yr.		
1972 vs 1973	316	107	118	+10	95%
1973 vs 1974	335	116	127	+10	95%
1974 vs 1975	334	127	120	- 5	80%
1975 vs 1976	354	129	120	- 7	90%
1976 vs 1977	363	115	99	-14	99%
1977 vs 1978	335	104	109	+ 4	50%
1978 vs 1979	325	105	108	+ 3	55%
1979 vs 1980	302	111	109	- 2	44%
1980 vs 1981	316	107	104	- 3	59%

[a] Comparable lines are those lines in each of the two years being compared

[b] Probability that the observed differences represents an actual change in the index.

Literature List

Bradley, J.V. 1968. Distribution-free Statistical Tests. Prentice-Hall, Englewood Cliffs, N.J., pp. 68-86.

Conover, W.J. 1971. Practical Nonparametric Statistics. Amer. Stat. 31 (1): 357-364.

Green, B.F. 1977. A practical interactive program for randomization tests of location. Amer. Stat. 31 (1): 37-39.

Lehman, E.L. 1975. Nonparametrics: Statistical Methods Based on ranks. McGraw Hill, N.Y., pp 123-132.

Figure 1. Location of Predator Survey Lines, 1981

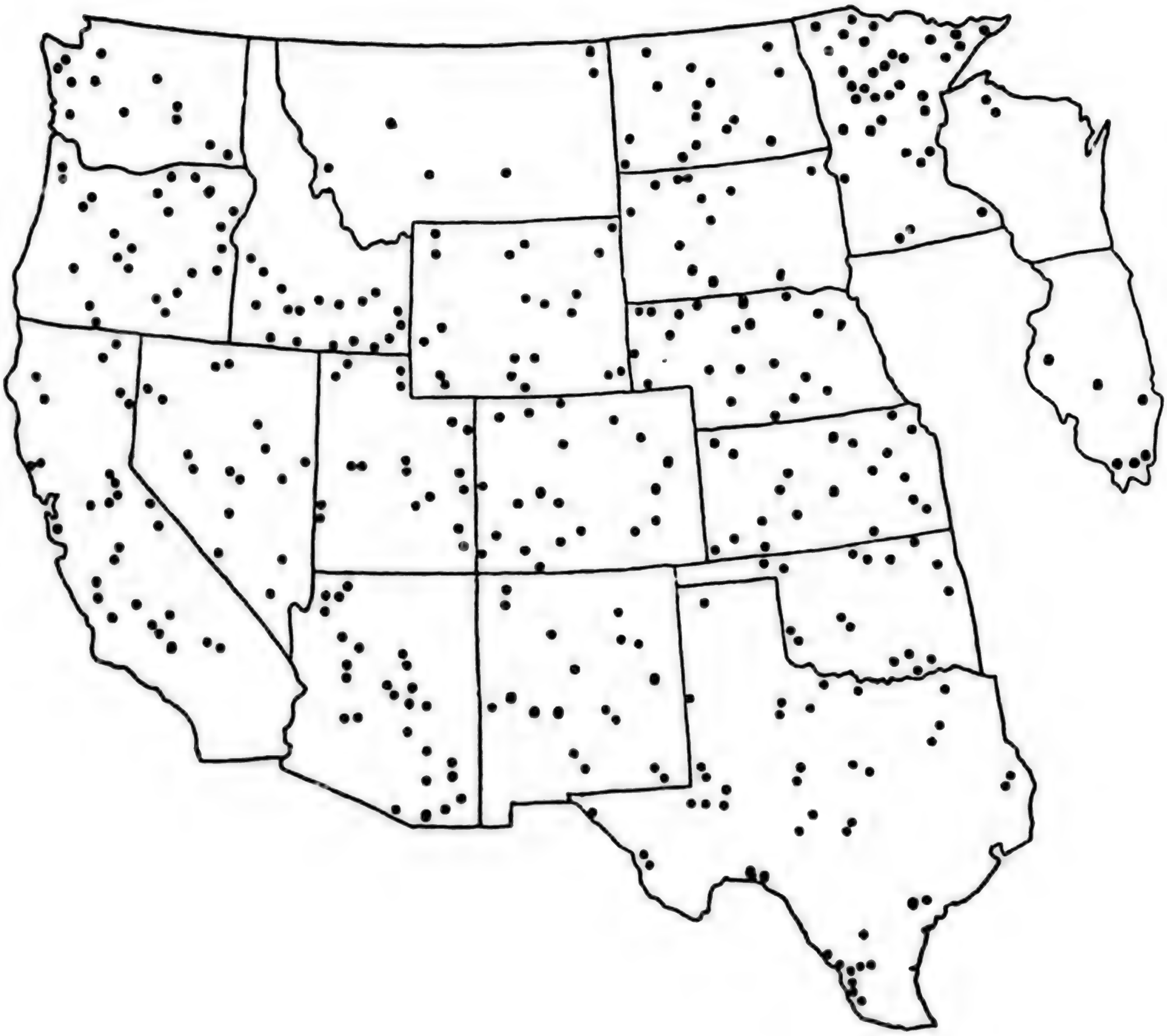

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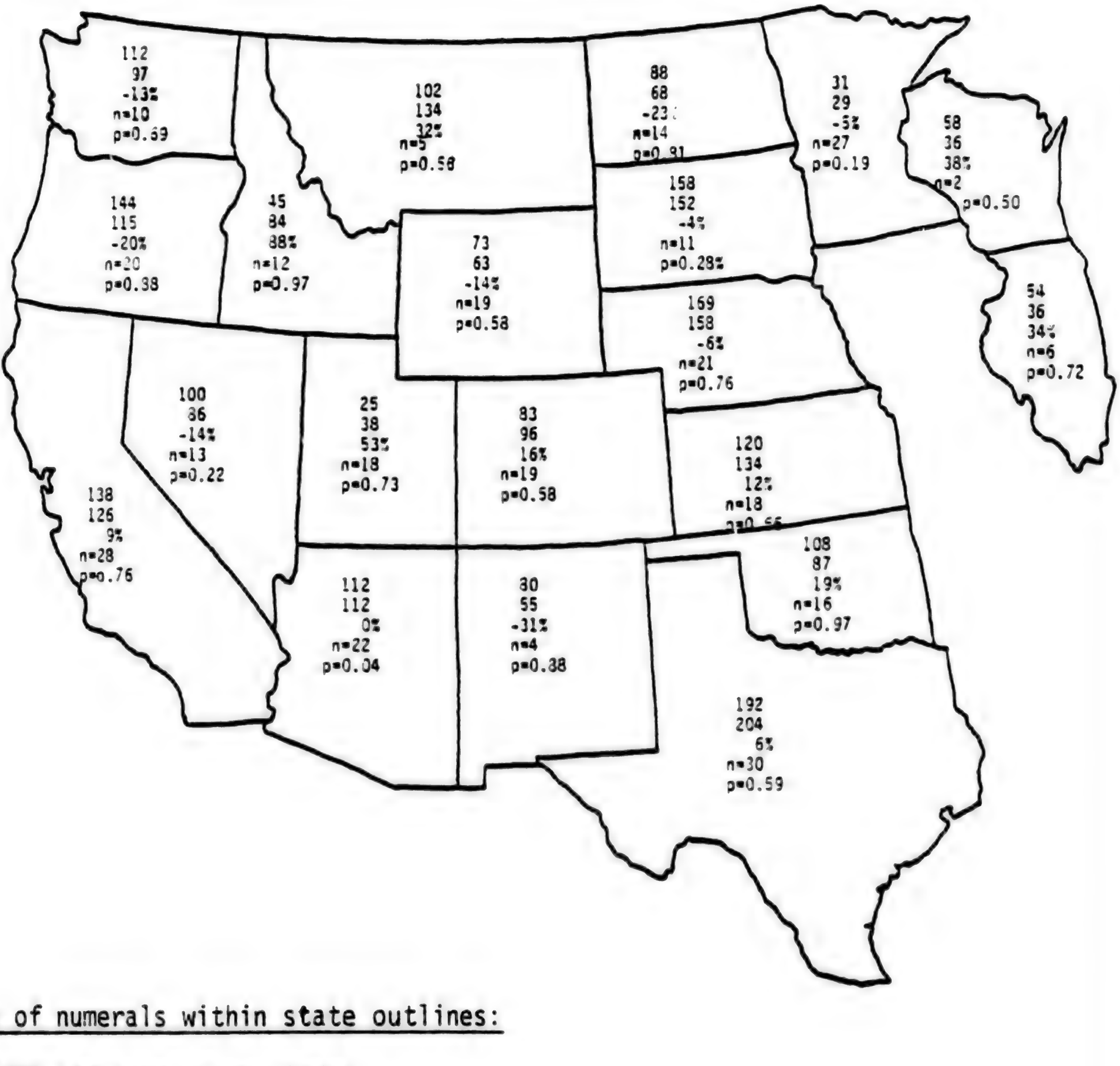
Figure 2. Comparison of 1980 and 1981 adjusted statewide coyote visitation indices. Only lines with data from both years are used.



Explanation of numerals within state outlines:

45 = 1980 adjusted coyote index
84 = 1981 adjusted coyote index
88% = Percent change from 1979 to 1980
n=12 = Number of survey lines involved
p=0.97 = Probability that the observed difference represents an actual change in the index

Figure 3. Trends in statewide coyote indices, 1972-1981.

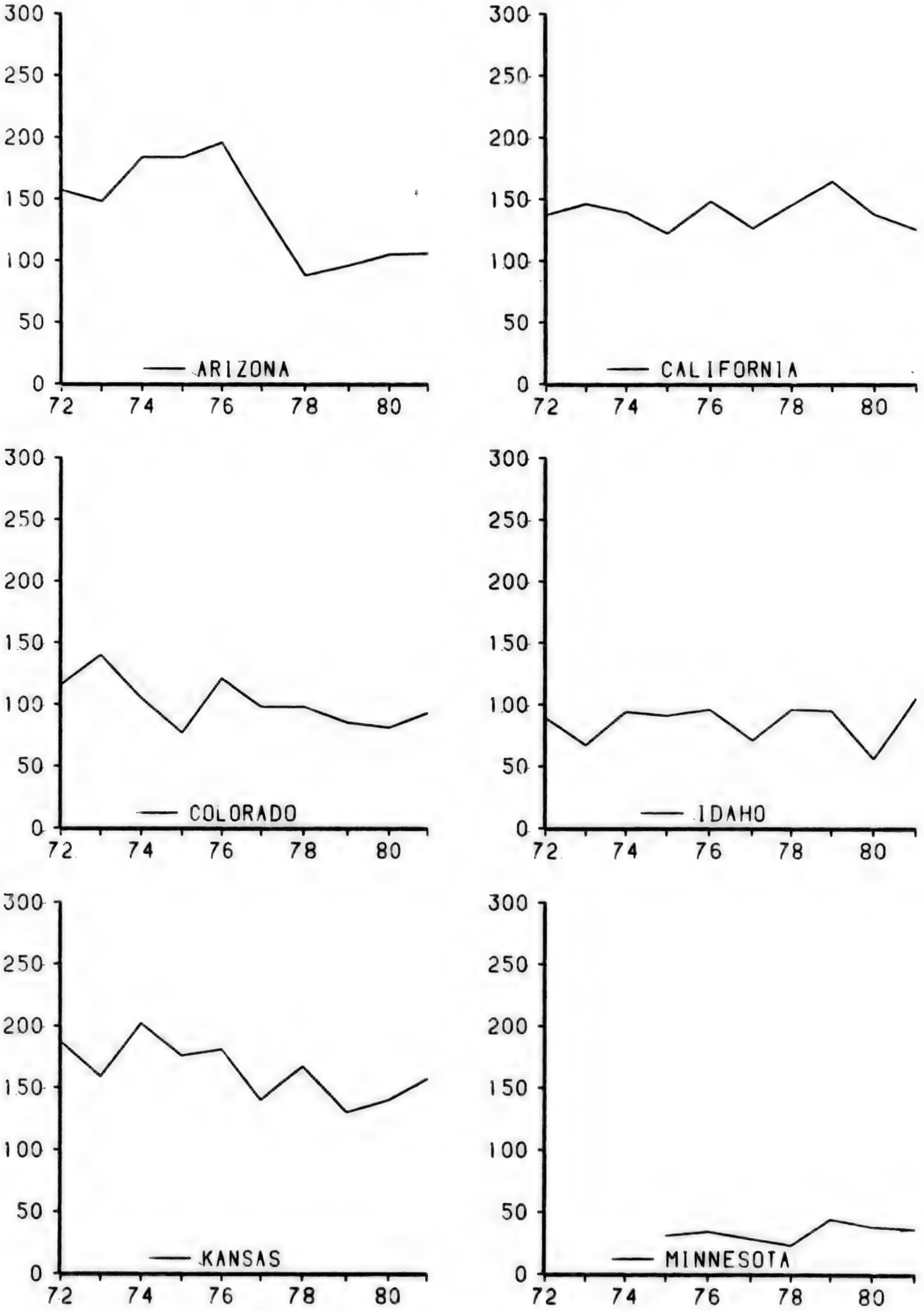


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Figure 3. Trends in statewide coyote indices, 1972-1981 (continued).

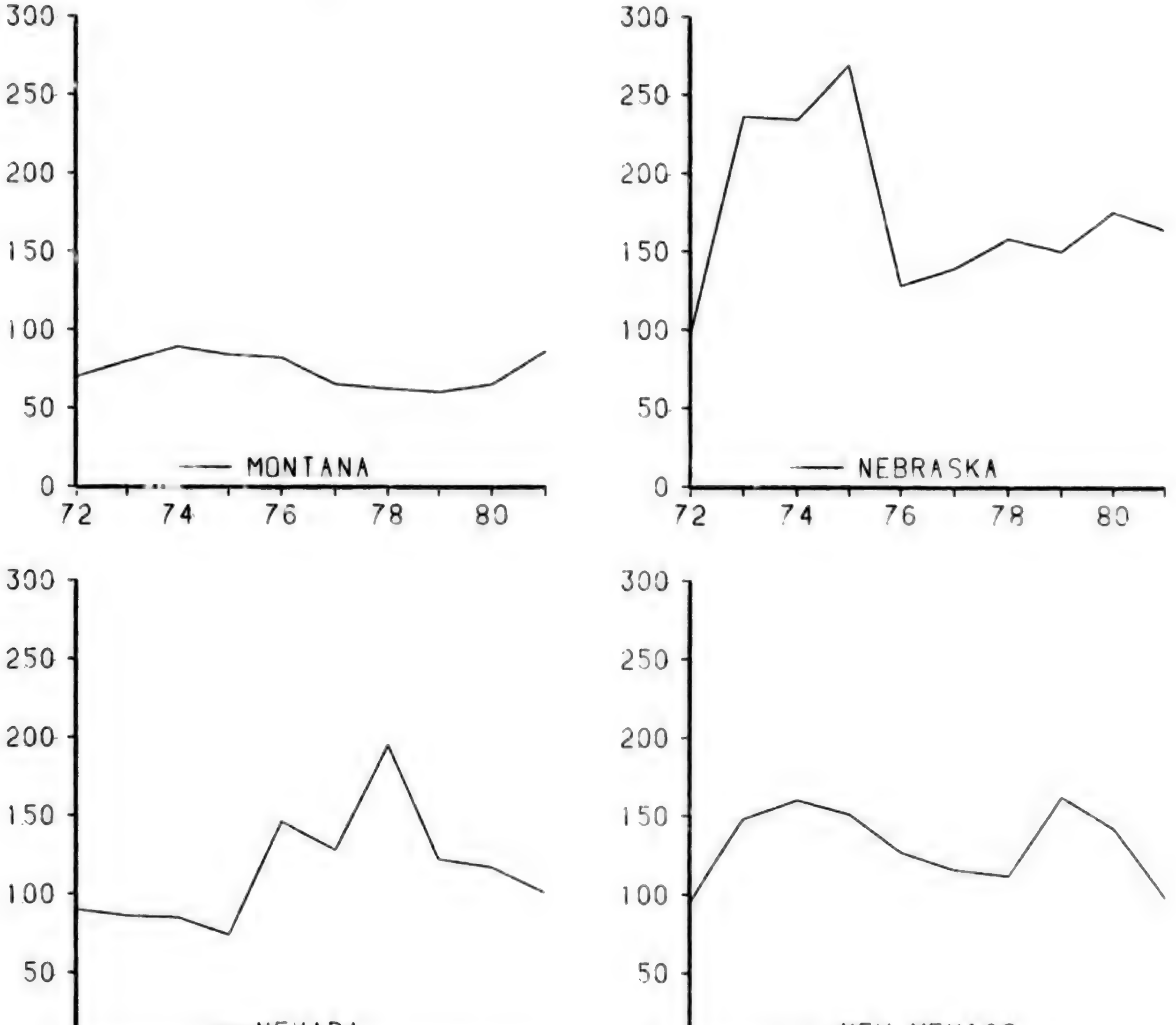


Figure 3. Trends in statewide coyote indices, 1972-1981 (continued).

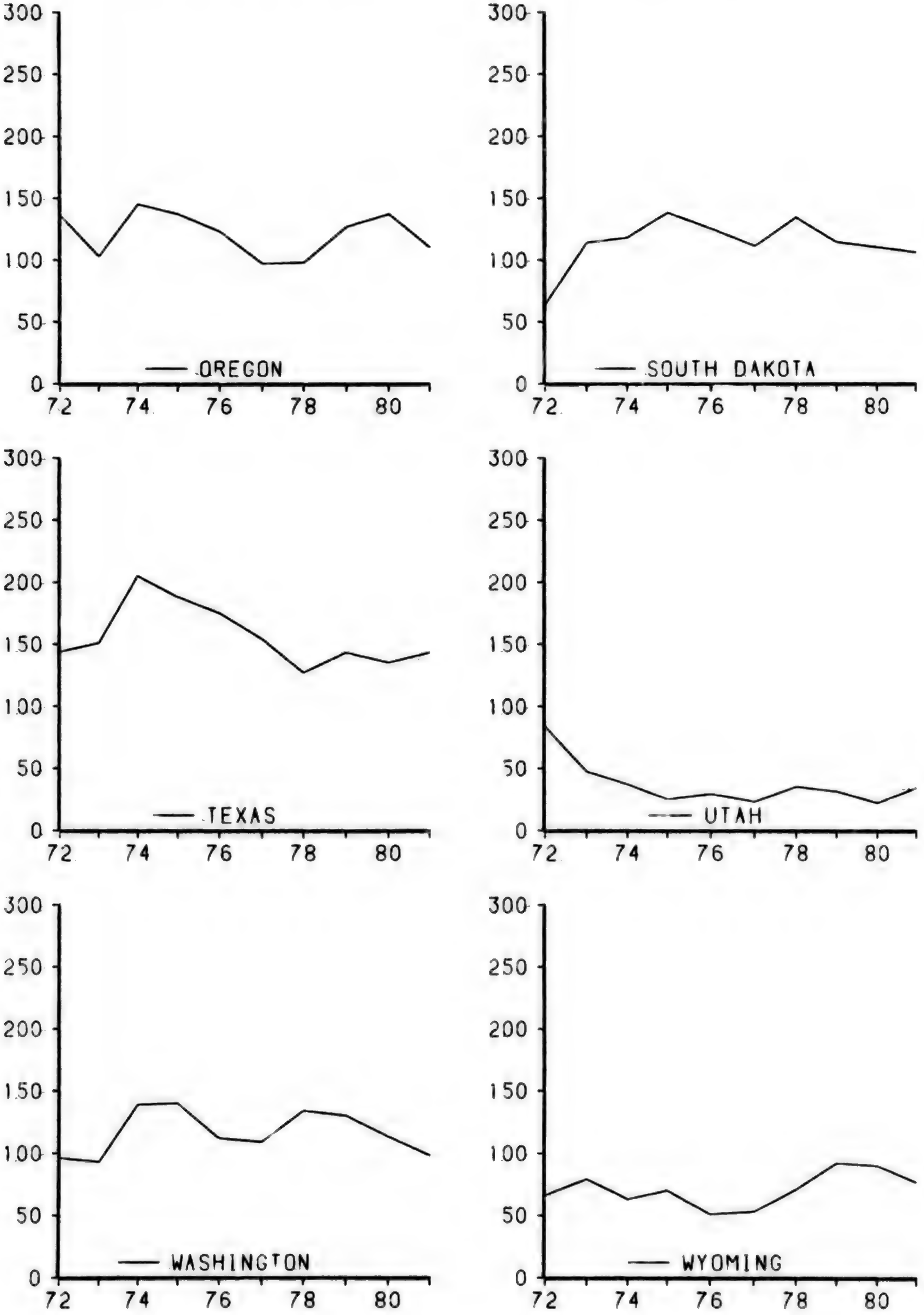


Figure 3. Trends in statewide coyote indices, 1972-1981 (concluded).

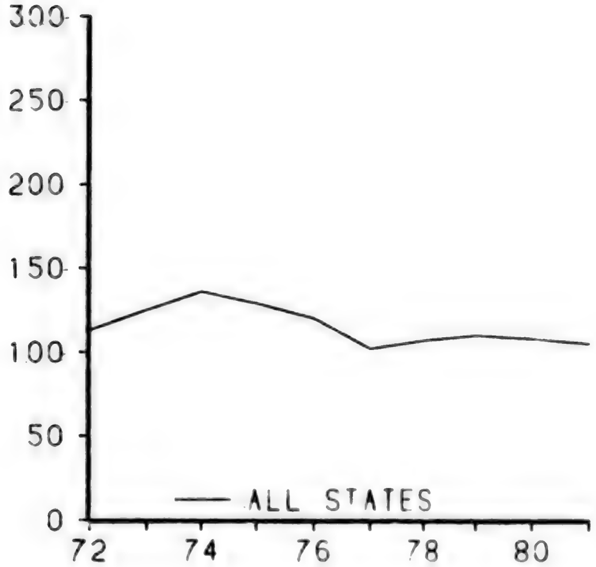
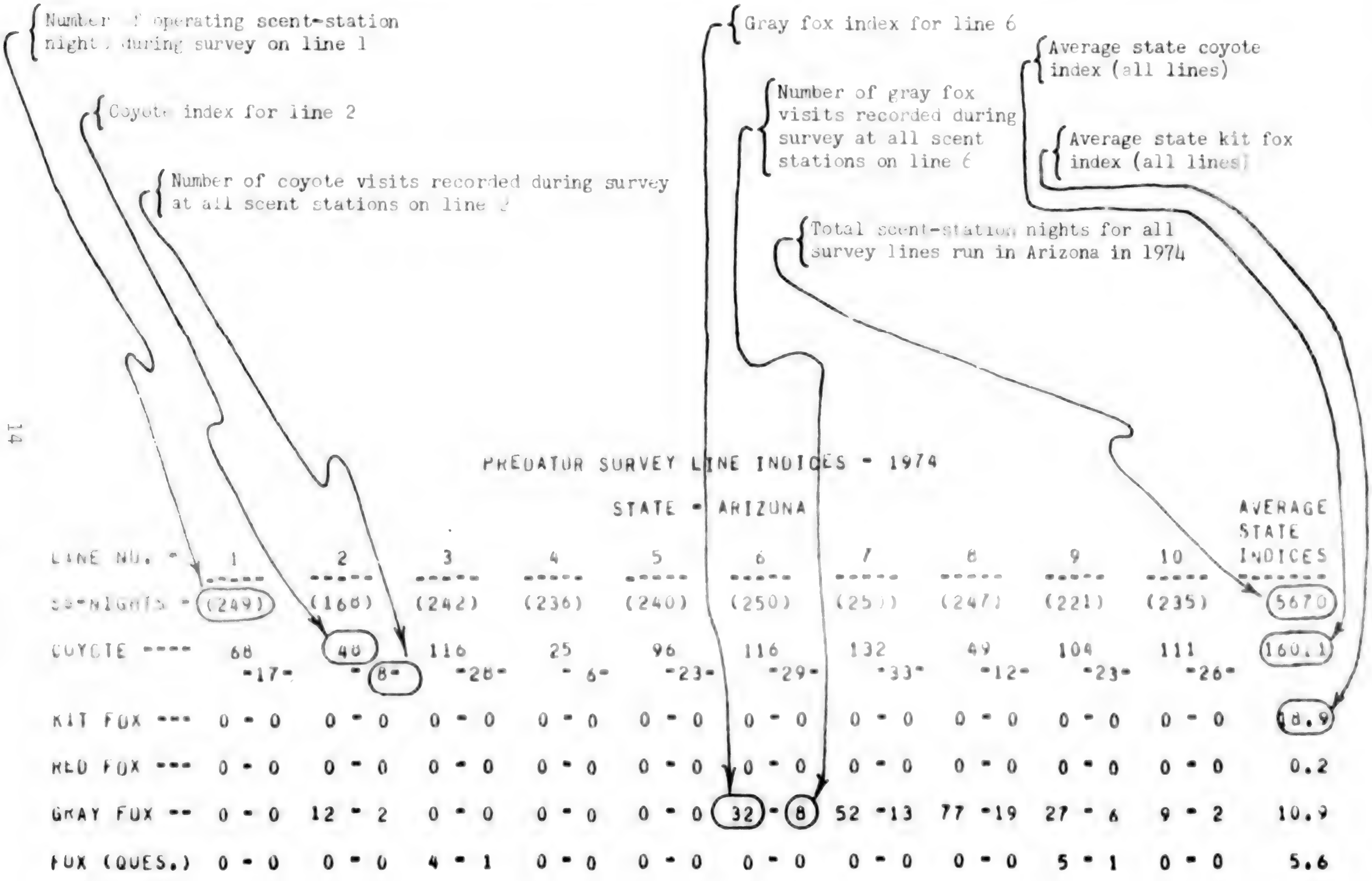


Figure 4. Explanation of computer printout summarizing data from survey lines run in each state.



Number of operating scent-station nights during survey on line 1

Coyote index for line 2

Number of coyote visits recorded during survey at all scent stations on line 2

Gray fox index for line 6

Number of gray fox visits recorded during survey at all scent stations on line 6

Total scent-station nights for all survey lines run in Arizona in 1974

Average state coyote index (all lines)

Average state kit fox index (all lines)

```
                      PREDATOR SURVEY LINE INDICES - 1974

                                STATE - ARIZUNA
                                                                                    AVERAGE
                                                                                    STATE
LINE NO. -     1       2       3       4       5       6       7       8       9      10     INDICES
             -----   -----   -----   -----   -----   -----   -----   -----   -----   -----   -------
SS-NIGHTS - (249)   (168)   (242)   (236)   (240)   (250)   (25[illegible])   (247)   (221)   (235)     5670

COYCTE ----   68      48     116      25      96     116     132      49     104     111      160.1
                -17-     - 8-    -28-    - 6-    -23-    -29-    -33-    -12-    -23-    -26-

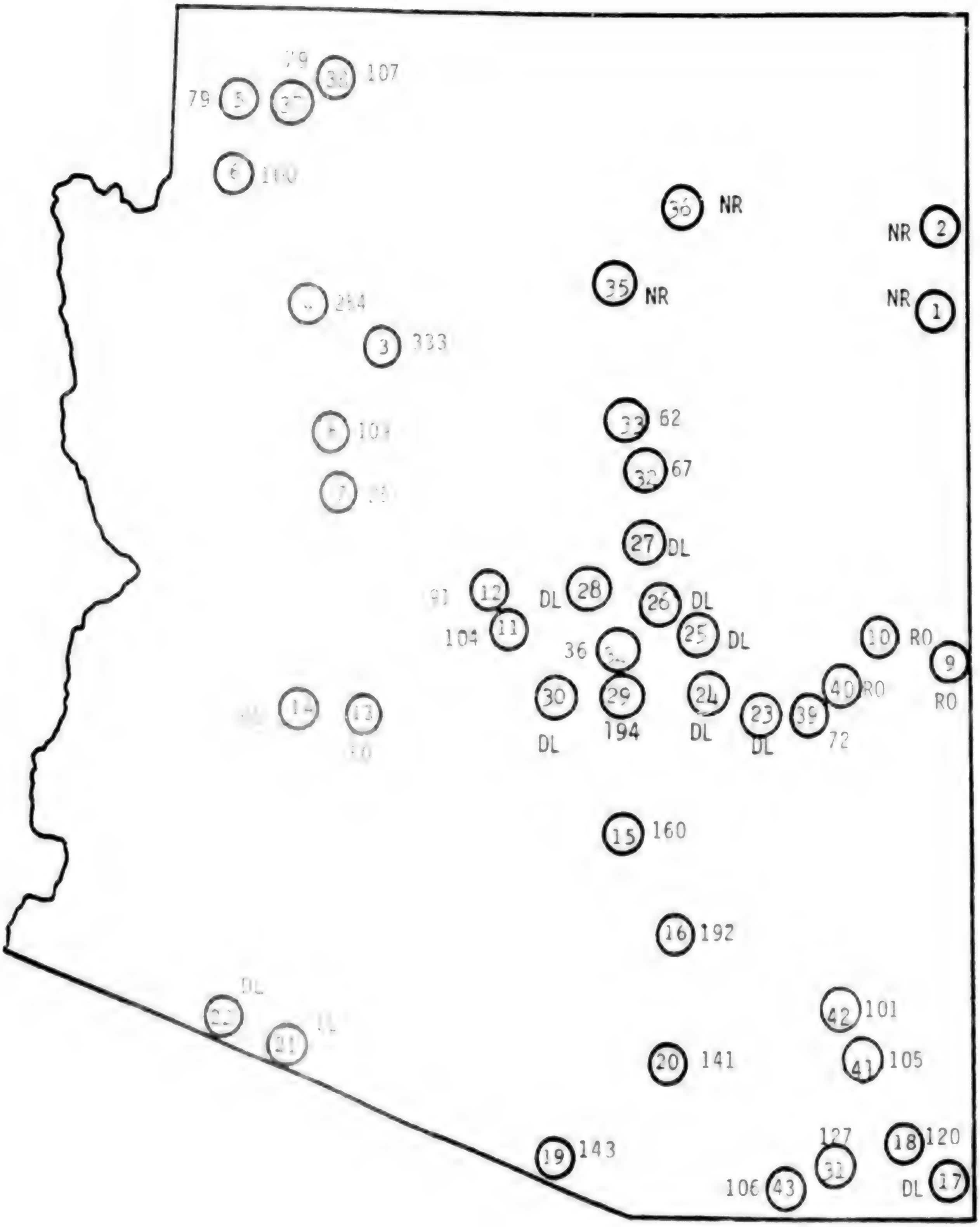
KIT FOX ---  0 - 0   0 - 0   0 - 0   0 - 0   0 - 0   0 - 0   0 - 0   0 - 0   0 - 0   0 - 0     8.9

RED FOX ---  0 - 0   0 - 0   0 - 0   0 - 0   0 - 0   0 - 0   0 - 0   0 - 0   0 - 0   0 - 0     0.2

GRAY FOX --  0 - 0  12 - 2   0 - 0   0 - 0   0 - 0  32 - 8  52 -13  77 -19  27 - 6   9 - 2    10.9

FOX (QUES.)  0 - 0   0 - 0   4 - 1   0 - 0   0 - 0   0 - 0   0 - 0   0 - 0   5 - 1   0 - 0     5.6
```

ARIZONA



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PREDATOR SURVEY LINE INDICES - 1981

STATE - ARIZONA

LINE NO. -	1	2	3	4	5	6	7	8	9	10	AVERAGE STATE INDICES
SS-NIGHTS -	(0)	(0)	(168)	(189)	(101)	(180)	(200)	(184)	(0)	(0)	4506
COYOTE ----	0 - 0-	0 - 0-	333 -56-	254 -48-	79 - 8-	100 -18-	25 - 5-	109 -20-	0 - 0-	0 - 0-	111.9
KIT FOX ---	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	1.1
RED FOX ---	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0.0
GRAY FOX --	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	205 -41	54 -10	0 - 0	0 - 0	34.4
UNIDENTIFIE	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	13.3
BOBCAT ----	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	10 - 2	5 - 1	0 - 0	0 - 0	0.9
BADGER ----	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0.7
RACCOON ---	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0.7
SKUNK -----	0 - 0	0 - 0	0 - 0	11 - 2	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	2.0
OTHER CARNIVORES											
BEAR ------	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	5 - 1	0 - 0	0 - 0	0 - 0	0.2
DOG -------	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0.2
RINGTAIL --	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0.2
JAVELINA --	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0.9

PREDATOR SURVEY LINE INDICES - 1981

STATE - ARIZONA

```
LINE NO. -    11        12        13        14        15        16        17        18        19        20
            -----     -----     -----     -----     -----     -----     -----     -----     -----     -----
SS-NIGHTS - (193)     (198)     (200)     (200)     (200)     (167)     (  0)     (191)     (182)     (128)

COYOTE ----  104        9,        50        80       160       192         0       120       143       141
               -20-      -18-      -10-      -16-      -32-      -32-      - 0-      -23-      -26-      -18-

KIT FOX ---  0 - 0     0 - 0     0 - 0     0 - 0     0 - 0     0 - 0     0 - 0     0 - 0     0 - 0    31 - 4

RED FOX ---  0 - 0     0 - 0     0 - 0     0 - 0     0 - 0     0 - 0     0 - 0     0 - 0     0 - 0     0 - 0

GRAY FOX --  0 - 0     0 - 0     0 - 0     0 - 0     0 - 0     0 - 0     0 - 0    89 -17    11 - 2     0 - 0

UNIDENTIFIE 16 - 3     5 - 1     0 - 0     0 - 0     0 - 0     0 - 0     0 - 0     0 - 0     0 - 0     0 - 0

BOBCAT ----  5 - 1     0 - 0     0 - 0     0 - 0     0 - 0     0 - 0     0 - 0     0 - 0     0 - 0     0 - 0

BADGER ----  0 - 0     0 - 0     5 - 1     5 - 1     0 - 0     0 - 0     0 - 0     0 - 0     0 - 0     0 - 0

RACCOON ---  0 - 0     0 - 0     0 - 0     0 - 0     0 - 0     0 - 0     0 - 0     5 - 1     0 - 0     0 - 0

SKUNK ----- 10 - 2     0 - 0     0 - 0     0 - 0     0 - 0     0 - 0     0 - 0     0 - 0     5 - 1     0 - 0

OTHER CARNIVORES

BEAR ------  0 - 0     0 - 0     0 - 0     0 - 0     0 - 0     0 - 0     0 - 0     0 - 0     0 - 0     0 - 0

DOG -------  0 - 0     0 - 0     0 - 0     0 - 0     0 - 0     0 - 0     0 - 0     0 - 0     0 - 0     0 - 0

RINGTAIL --  0 - 0     0 - 0     0 - 0     0 - 0     0 - 0     0 - 0     0 - 0     0 - 0     0 - 0     0 - 0

JAVELINA --  0 - 0     0 - 0     0 - 0     0 - 0     0 - 0     0 - 0     0 - 0     0 - 0     0 - 0     0 - 0
```

PREDATOR SURVEY LINE INDICES - 1981

STATE - ARIZONA

LINE NO. -	21	22	23	24	25	26	27	28	29	30
SS-NIGHTS -	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(151)	(0)
COYOTE ----	0 - 0-	0 - 0-	0 - 0-	0 - 0-	0 - 0-	0 - 0-	0 - 0-	0 - 0-	66 -10-	0 - 0-
KIT FOX ---	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0
RED FOX ---	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0
GRAY FOX --	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	26 - 4	0 - 0
UNIDENTIFIE	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0
BOBCAT ----	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0
BADGER ----	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0
RACCOON ---	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0
SKUNK -----	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	7 - 1	0 - 0
OTHER CARNIVORES										
BEAR ------	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0
DOG -------	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	7 - 1	0 - 0
RINGTAIL --	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0
JAVELINA --	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	7 - 1	0 - 0

```
                                   PREDATOR SURVEY LINE INDICES - 1981

                                           STATE - ARIZONA

LINE NO. -    31         32         33         34         35         36         37         38         39         40
            -----      -----      -----      -----      -----      -----      -----      -----      -----      -----
SS-NIGHTS - (189)      (163)      (195)      (165)      (  0)      (  0)      (177)      (178)      (166)      (  0)

COYOTE ----  127         67         62         36          0          0         79        107         72          0
               -24-       -11-       -12-       - 6-       - 0-       - 0-       -14-       -19-       -12-       - 0-

KIT FOX ---  0 - 0      0 - 0      0 - 0      0 - 0      0 - 0      0 - 0      0 - 0      0 - 0      0 - 0      0 - 0

RED FOX ---  0 - 0      0 - 0      0 - 0      0 - 0      0 - 0      0 - 0      0 - 0      0 - 0      0 - 0      0 - 0

GRAY FOX --286 -54      0 - 0      0 - 0     12 - 2      0 - 0      0 - 0      0 - 0      0 - 0    102 -17      0 - 0

UNIDENTIFIE  0 - 0      0 - 0      5 - 1      0 - 0      0 - 0      0 - 0    192 -34    118 -21      0 - 0      0 - 0

BOBCAT ----  0 - 0      0 - 0      0 - 0      0 - 0      0 - 0      0 - 0      0 - 0      0 - 0      0 - 0      0 - 0

BADGER ----  5 - 1      0 - 0      0 - 0      0 - 0      0 - 0      0 - 0      0 - 0      0 - 0      0 - 0      0 - 0

RACCOON ---  0 - 0      0 - 0      0 - 0      0 - 0      0 - 0      0 - 0      0 - 0      0 - 0      0 - 0      0 - 0

SKUNK -----  0 - 0      6 - 1      0 - 0      6 - 1      0 - 0      0 - 0      0 - 0      0 - 0      0 - 0      0 - 0

OTHER CARNIVORES

BEAR ------  0 - 0      0 - 0      0 - 0      0 - 0      0 - 0      0 - 0      0 - 0      0 - 0      0 - 0      0 - 0

DOG -------  0 - 0      0 - 0      0 - 0      0 - 0      0 - 0      0 - 0      0 - 0      0 - 0      0 - 0      0 - 0

RINGTAIL --  0 - 0      0 - 0      0 - 0      6 - 1      0 - 0      0 - 0      0 - 0      0 - 0      0 - 0      0 - 0

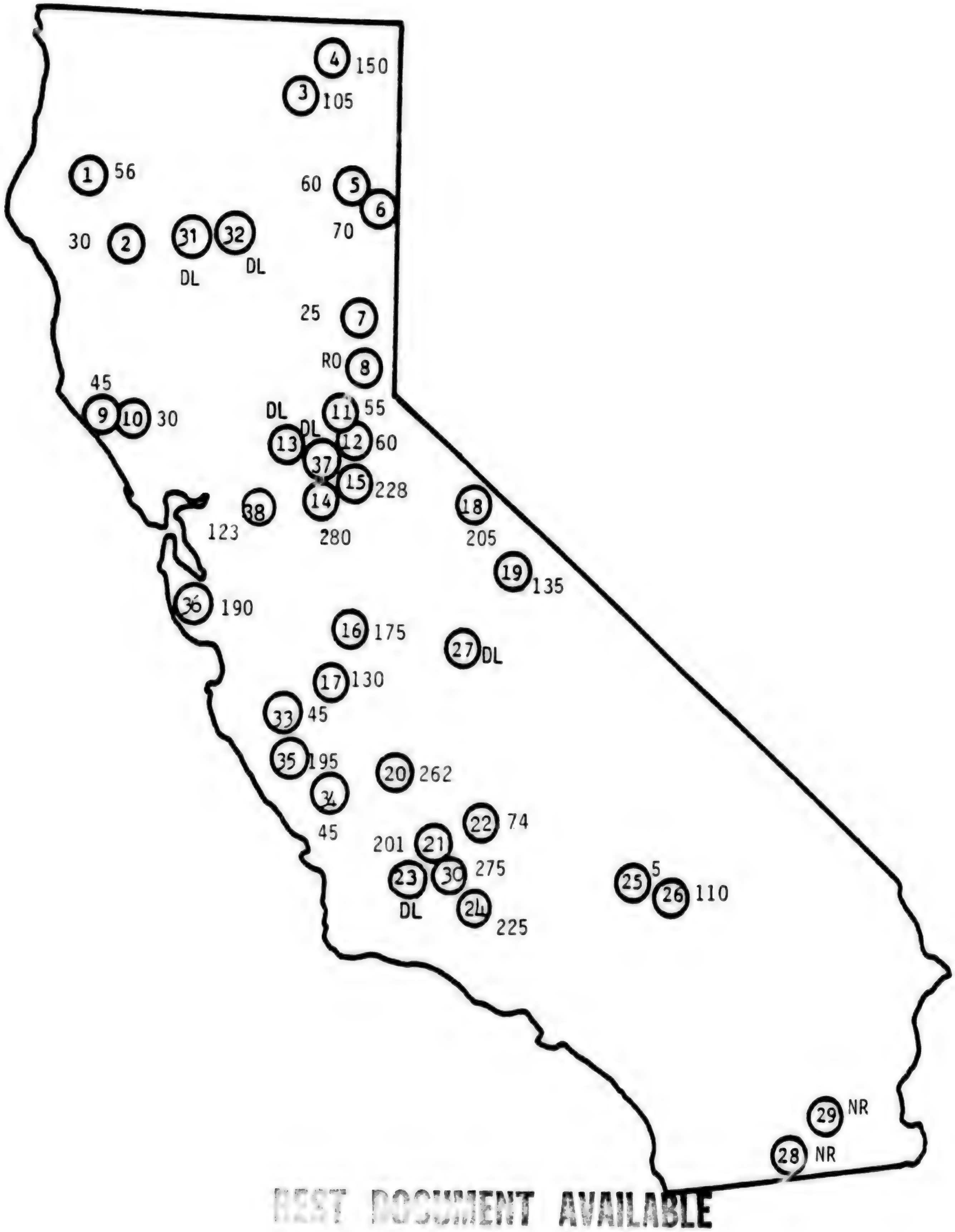
JAVELINA --  0 - 0      0 - 0      0 - 0     18 - 3      0 - 0      0 - 0      0 - 0      0 - 0      0 - 0      0 - 0
```

PREDATOR SURVEY LINE INDICES - 1981

STATE - ARIZONA

LINE NO, -	41	42	43	
SS-NIGHTS -	(143)	(99)	(199)	(
COYOTE ----	105 -15-	101 -10-	106 -21-	-
KIT FOX ---	7 - 1	0 - 0	0 - 0	
RED FOX ---	0 - 0	0 - 0	0 - 0	
GRAY FOX --	0 - 0	0 - 0	40 - 8	
UNIDENTIFIE	0 - 0	0 - 0	0 - 0	
BOBCAT ----	0 - 0	0 - 0	0 - 0	
BADGER ----	0 - 0	0 - 0	0 - 0	
RACCOON ---	14 - 2	0 - 0	0 - 0	
SKUNK -----	7 - 1	0 - 0	0 - 0	
OTHER CARNIVORES				
BEAR ------	0 - 0	0 - 0	0 - 0	
DOG -------	0 - 0	0 - 0	0 - 0	
RINGTAIL --	0 - 0	0 - 0	0 - 0	
JAVELINA --	0 - 0	0 - 0	0 - 0	

CALIFORNIA


4 150
3 105
1 56
60 5
6 70
30 2
31 DL
32 DL
25 7
RO 8
45 9
10 30
DL 11 55
13 DL
12 60
37
15 228
14 280
38 123
18 205
19 135
36 190
16 175
27 DL
17 130
33 45
35 195
20 262
34 45
22 74
201 21
30 275
23 DL
24 225
25 5
26 110
29 NR
28 NR

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BEST DOCUMENT AVAILABLE

PREDATOR SURVEY LINE INDICES - 1981

STATE - CALIFORNIA

LINE NO. -	1	2	3	4	5	6	7	8	9	10	AVERAGE STATE INDICES
SS-NIGHTS -	(195)	(200)	(200)	(180)	(200)	(200)	(200)	(0)	(199)	(197)	5575
COYOTE ----	56 -11-	30 - 6-	105 -21-	150 -27-	60 -12-	70 -14-	25 - 5-	0 - 0-	45 - 9-	30 - 6-	120,4
KIT FOX ---	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	21,7
RED FOX ---	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0,0
GRAY FOX --	0 - 0	95 -19	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	5 - 1	25,8
UNIDENTIFIE	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	5 - 1	0 - 0	0,4
BOBCAT ----	0 - 0	10 - 2	5 - 1	11 - 2	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	6,1
BADGER ----	0 - 0	0 - 0	0 - 0	6 - 1	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	2,3
RACCOON ---	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	70 -14	46 - 9	9,0
SKUNK ------	0 - 0	10 - 2	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	15 - 3	15,1
OTHER CARNIVORES											
OPPOSSUM --	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	5 - 1	0,7
BEAR ------	0 - 0	15 - 3	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	1,1
DOG -------	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	5 - 1	3,6
MT. LION --	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0,2

PREDATOR SURVEY LINE INDICES - 1981

STATE - CALIFORNIA

LINE NO. -	11	12	13	14	15	16	17	18	19	20
SS-NIGHTS -	(200)	(199)	(0)	(200)	(92)	(200)	(200)	(200)	(200)	(191)
COYOTE ----	55 -11-	60 -12-	0 - 0-	280 -56-	220 -21-	175 -35-	130 -26-	205 -41-	135 -27-	262 -50-
KIT FOX ---	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	60 -12	0 - 0	0 - 0	0 - 0
RED FOX ---	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0
GRAY FOX --	200 -40	111 -22	0 - 0	30 - 6	11 - 1	0 - 0	0 - 0	0 - 0	0 - 0	5 - 1
UNIDENTIFIE	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0
BOBCAT ----	5 - 1	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	15 - 3	0 - 0	0 - 0	5 - 1
BADGER ----	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	30 - 6	15 - 3	0 - 0	0 - 0	0 - 0
RACCOON ---	0 - 0	0 - 0	0 - 0	0 - 0	65 - 6	0 - 0	0 - 0	5 - 1	0 - 0	16 - 3
SKUNK -----	0 - 0	0 - 0	0 - 0	0 - 0	43 - 4	30 - 6	35 - 7	10 - 2	0 - 0	16 - 3
OTHER CARNIVORES										
OPPOSSUM --	10 - 2	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0
BEAR ------	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0
DOG -------	85 -17	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0
MT. LION --	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0

BEST DOCUMENT AVAILABLE

PREDATOR SURVEY LINE INDICES - 1981

STATE - CALIFORNIA

LINE NO. -	21	22	23	24	25	26	27	28	29	30
BS-NIGHTS -	(184)	(189)	(0)	(187)	(200)	(200)	(0)	(0)	(0)	(167)
COYOTE ----	201 -37-	74 -14-	0 - 0-	225 -42-	5 - 1-	110 -22-	0 - 0-	0 - 0-	0 - 0-	275 -46-
KIT FOX ---	38 - 7	291 -55	0 - 0	0 - 0	170 -34	60 -12	0 - 0	0 - 0	0 - 0	6 - 1
RED FOX ---	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0
GRAY FOX --	0 - 0	0 - 0	0 - 0	91 -17	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0
UNIDENTIFIE	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0
BOBCAT ----	0 - 0	0 - 0	0 - 0	59 -11	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	30 - 5
BADGER ----	0 - 0	0 - 0	0 - 0	0 - 0	10 - 2	5 - 1	0 - 0	0 - 0	0 - 0	0 - 0
RACCOON ---	16 - 3	0 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0
SKUNK -----	22 - 4	0 - 0	0 - 0	150 -28	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	6 - 1
OTHER CARNIVORES										
OPPOSSUM --	5 - 1	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0
BEAR ------	0 - 0	0 - 0	0 - 0	16 - 3	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0
DOG -------	5 - 1	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0
MT. LION --	0 - 0	0 - 0	0 - 0	5 - 1	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0

```
                                   PREDATOR SURVEY LINE INDICES - 1981

                                           STATE - CALIFORNIA

LINE NO. -    31        32        33        34        35        36        37        38
            -----     -----     -----     -----     -----     -----     -----     -----     -----     -----
SS-NIGHTS - (  0)     (  0)     (200)     (200)     (200)     (200)     (  0)     (175)     (

COYOTE ----     0         0        45        45       195       190         0       123
              - 0-      - 0-      - 9-      - 9-      -39-      -38-      - 0-      -24-      -

KIT FOX ---   0 - 0     0 - 0     0 - 0     0 - 0     0 - 0     0 - 0     0 - 0     0 - 0

RED FOX ---   0 - 0     0 - 0     0 - 0     0 - 0     0 - 0     0 - 0     0 - 0     0 - 0

GRAY FOX --   0 - 0     0 - 0    95 -19    30 - 6    55 -11     5 - 1     0 - 0     0 - 0

UNIDENTIFIE   0 - 0     0 - 0     0 - 0     0 - 0     0 - 0     0 - 0     0 - 0     5 - 1

BOBCAT ----   0 - 0     0 - 0    10 - 2     0 - 0    20 - 4    10 - 2     0 - 0     0 - 0

BADGER ----   0 - 0     0 - 0     0 - 0     0 - 0     0 - 0     0 - 0     0 - 0     0 - 0

RACCOON ---   0 - 0     0 - 0    20 - 4    35 - 7     0 - 0    15 - 3     0 - 0     0 - 0

SKUNK -----   0 - 0     0 - 0    25 - 5    40 - 8    40 - 8    10 - 2     0 - 0     5 - 1

OTHER CARNIVORES

OPPOSSUM --   0 - 0     0 - 0     0 - 0     0 - 0     0 - 0     0 - 0     0 - 0     0 - 0

BEAR ------   0 - 0     0 - 0     0 - 0     0 - 0     0 - 0     0 - 0     0 - 0     0 - 0

DOG -------   0 - 0     0 - 0     0 - 0     0 - 0     0 - 0     0 - 0     0 - 0     5 - 1

MT. LION --   0 - 0     0 - 0     0 - 0     0 - 0     0 - 0     0 - 0     0 - 0     0 - 0
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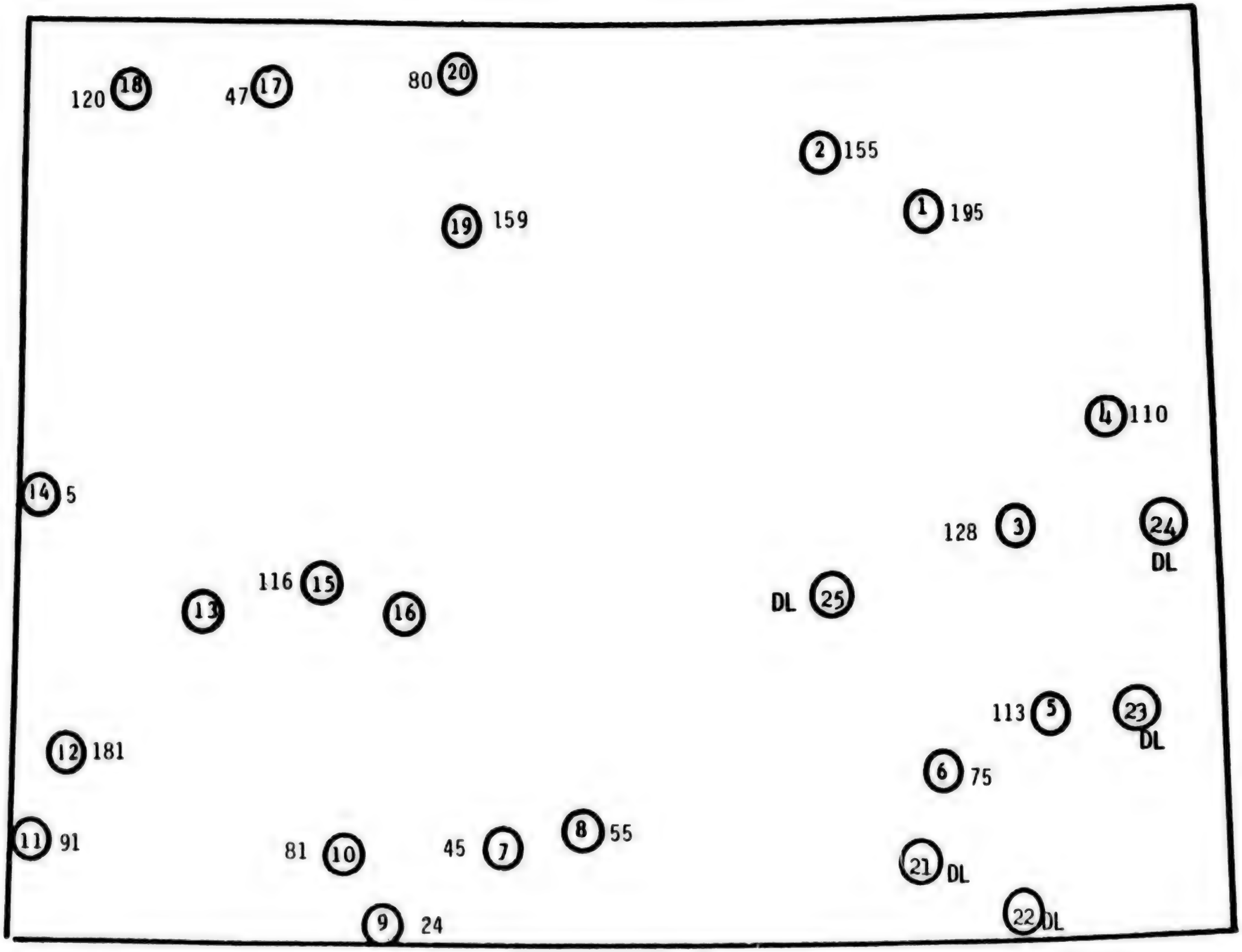
COLORADO


120 18
47 17
80 20
2 155
1 195
19 159
4 110
14 5
128 3
24
DL
116 15
13
16
DL 25
113 5
23
DL
12 181
6 75
11 91
81 10
45 7
8 55
21 DL
22 DL
9 24

PREDATOR SURVEY LINE INDICES - 1981

STATE - COLORADO

LINE NO. -	1	2	3	4	5	6	7	8	9	10	AVERAGE STATE INDICES
SS-NIGHTS -	(200)	(200)	(196)	(200)	(194)	(200)	(199)	(200)	(126)	(197)	3760
COYOTE ----	195 -39-	155 -31-	128 -25-	110 -22-	113 -22-	75 -15-	45 - 9-	55 -11-	24 - 3-	81 -16-	95,7
KIT FOX ---	0 - 0	0 - 0	0 - 0	0 - 0	108 -21	45 - 9	0 - 0	0 - 0	0 - 0	0 - 0	8,0
RED FOX ---	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	6,1
GRAY FOX --	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0,0
UNIDENTIFIE	0 - 0	0 - 0	0 - 0	5 - 1	15 - 3	5 - 1	0 - 0	0 - 0	0 - 0	0 - 0	1,3
BOBCAT ----	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	16 - 2	0 - 0	0,5
BADGER ----	0 - 0	0 - 0	0 - 0	0 - 0	21 - 4	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	1,3
RACCOON ---	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0,0
SKUNK -----	0 - 0	0 - 0	0 - 0	5 - 1	0 - 0	0 - 0	0 - 0	5 - 1	0 - 0	0 - 0	1,9
OTHER CARNIVORES											
DOG -------	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	10 - 2	0 - 0	0 - 0	0 - 0	5 - 1	1,3
CAT -------	0 - 0	0 - 0	0 - 0	0 - 0	5 - 1	0 - 0	0 - 0	0 - 0	0 - 0	5 - 1	0,5

PREDATOR SURVEY LINE INDICES - 1981

STATE - COLORADO

LINE NO. -	11	12	13	14	15	16	17	18	19	20
SS-NIGHTS -	(197)	(166)	(194)	(200)	(198)	(199)	(150)	(150)	(195)	(199)
COYOTE ----	91 -18-	181 -30-	5 - 1-	5 - 1-	116 -23-	111 -22-	47 - 7-	120 -18-	159 -31-	80 -16-
KIT FOX ---	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0
RED FOX ---	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	147 -22	5 - 1	0 - 0
GRAY FOX --	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0
UNIDENTIFIE	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0
BOBCAT ----	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0
BADGER ----	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	5 - 1	0 - 0
RACCOON ---	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0
SKUNK -----	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	21 - 4	5 - 1
OTHER CARNIVORES										
DOG -------	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	10 - 2	0 - 0
CAT -------	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0

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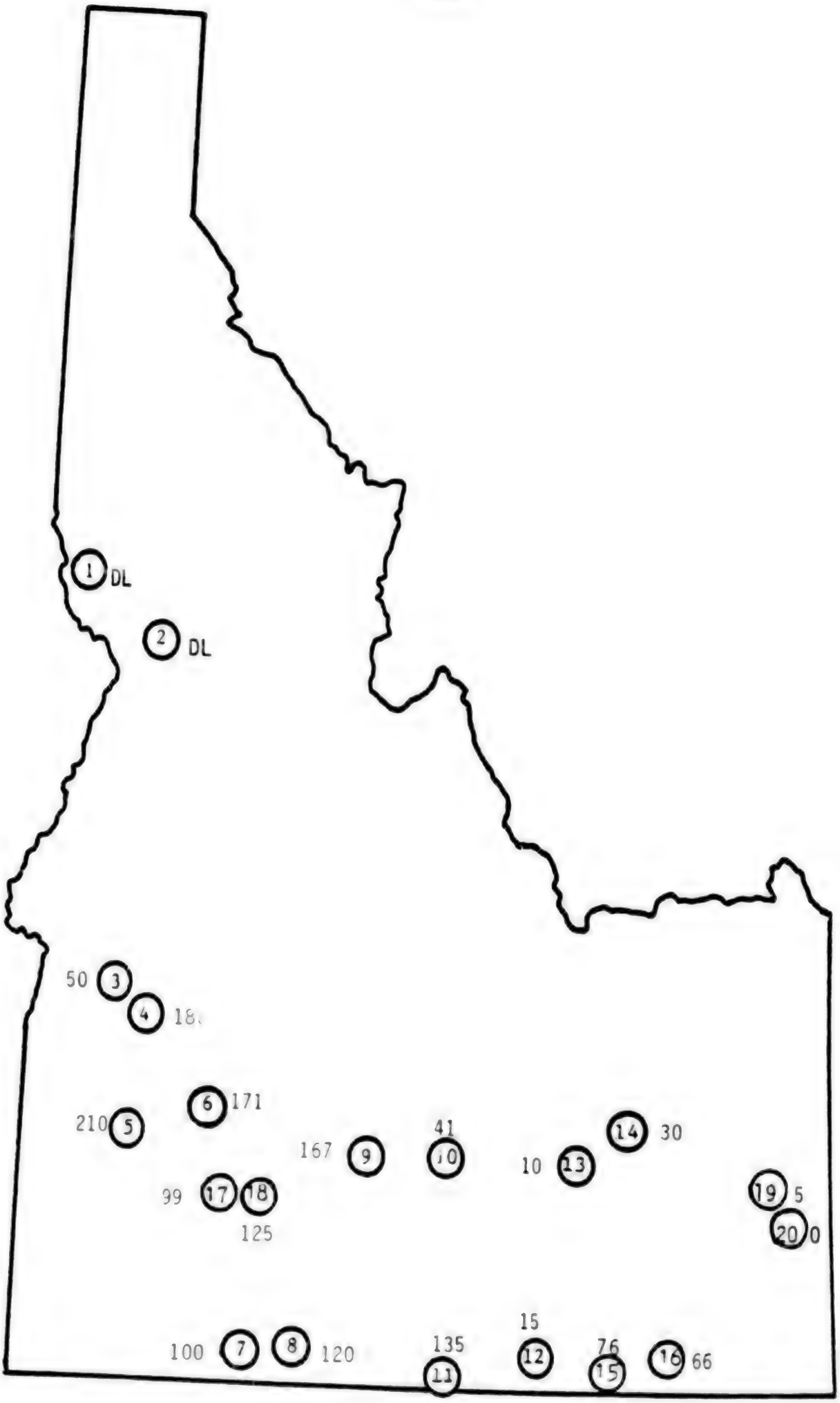
IDAHO


1
DL
2
DL
50
3
4
18
6
171
210
5
41
167
9
10
10
13
14
30
99
17
18
125
19
5
20
0
15
100
7
8
120
135
11
12
76
15
16
66

PREDATOR SURVEY LINE INDICES - 1981

STATE - IDAHO

LINE NO. -	1	2	3	4	5	6	7	8	9	10	AVERAGE STATE INDICES
SS-NIGHTS -	(0)	(0)	(200)	(200)	(200)	(193)	(200)	(200)	(192)	(193)	3317
COYOTE ----	0 - 0-	0 - 0-	50 -10-	180 -36-	210 -42-	171 -33-	100 -20-	120 -24-	167 -32-	41 - 8-	89,5
KIT FOX ---	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0,0
RED FOX ---	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0,0
GRAY FOX --	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0,0
UNIDENTIFIE	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	5 - 1	0,9
BOBCAT ----	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	5 - 1	0 - 0	0 - 0	10 - 2	0 - 0	1,2
BADGER ----	0 - 0	0 - 0	0 - 0	0 - 0	235 -47	5 - 1	10 - 2	10 - 2	26 - 5	21 - 4	20,2
RACCOON ---	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	5 - 1	0 - 0	0,3
SKUNK -----	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	1,2
OTHER CARNIVORES											
DOG -------	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	2,4
MT. LION --	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	5 - 1	0 - 0	0 - 0	0 - 0	0 - 0	0,3

PREDATOR SURVEY LINE INDICES - 1981

STATE - IDAHO

LINE NO. -	11	12	13	14	15	16	17	18	19	20
SS-NIGHTS -	(193)	(198)	(199)	(200)	(197)	(197)	(142)	(96)	(187)	(130)
COYOTE ----	135 -26-	15 - 3-	10 - 2-	30 - 6-	76 -15-	66 -13-	99 -14-	125 -12-	5 - 1-	0 - 0-
KIT FOX ---	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0
RED FOX ---	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0
GRAY FOX --	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0
UNIDENTIFIE	0 - 0	0 - 0	0 - 0	0 - 0	10 - 2	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0
BOBCAT ----	0 - 0	0 - 0	5 - 1	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0
BADGER ----	0 - 0	0 - 0	10 - 2	5 - 1	10 - 2	5 - 1	0 - 0	0 - 0	0 - 0	0 - 0
RACCOON ---	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0
SKUNK -----	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	21 - 4	0 - 0
OTHER CARNIVORES										
DOG -------	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	21 - 4	31 - 4
MT. LION --	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0

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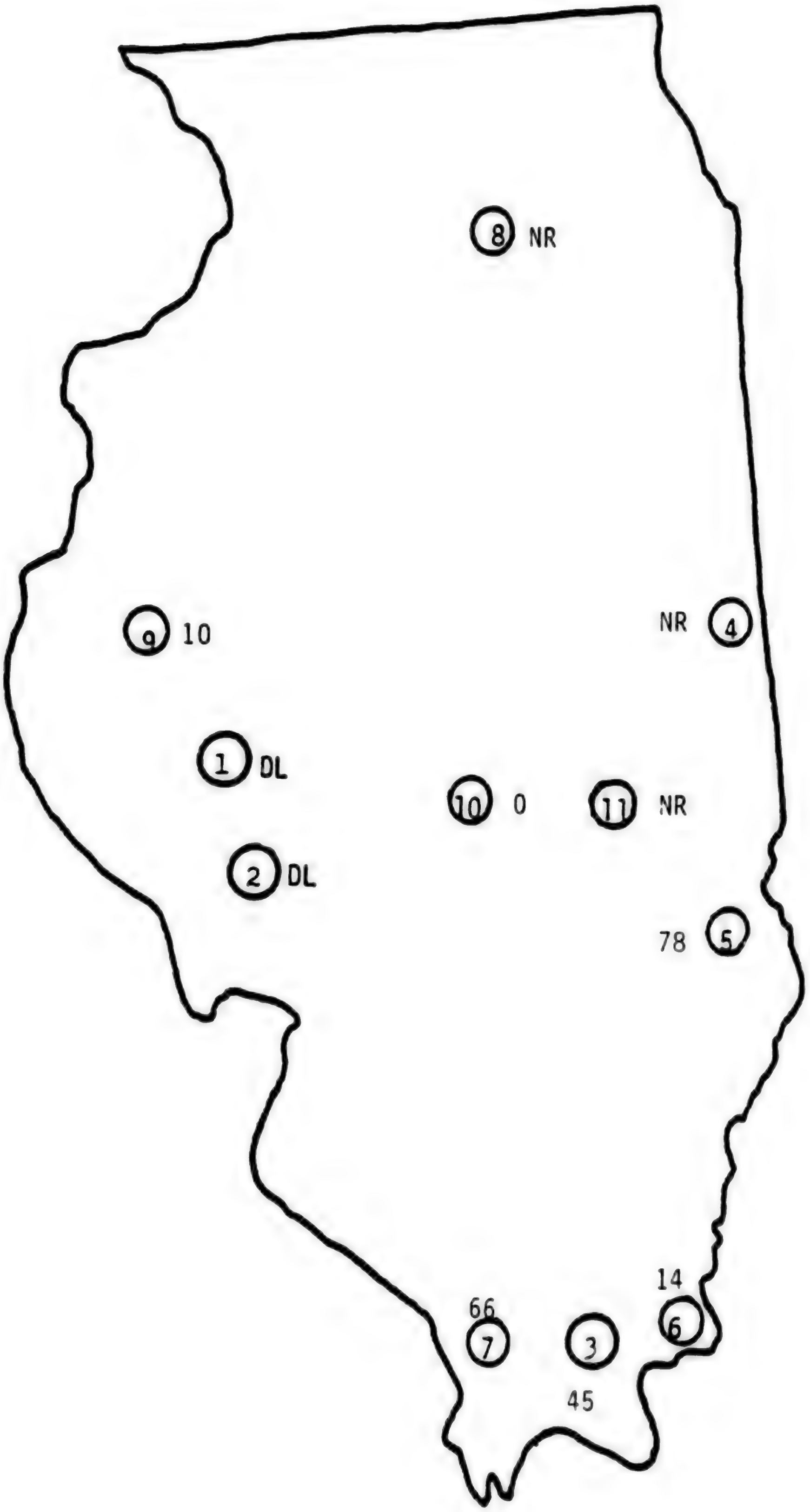
ILLINOIS

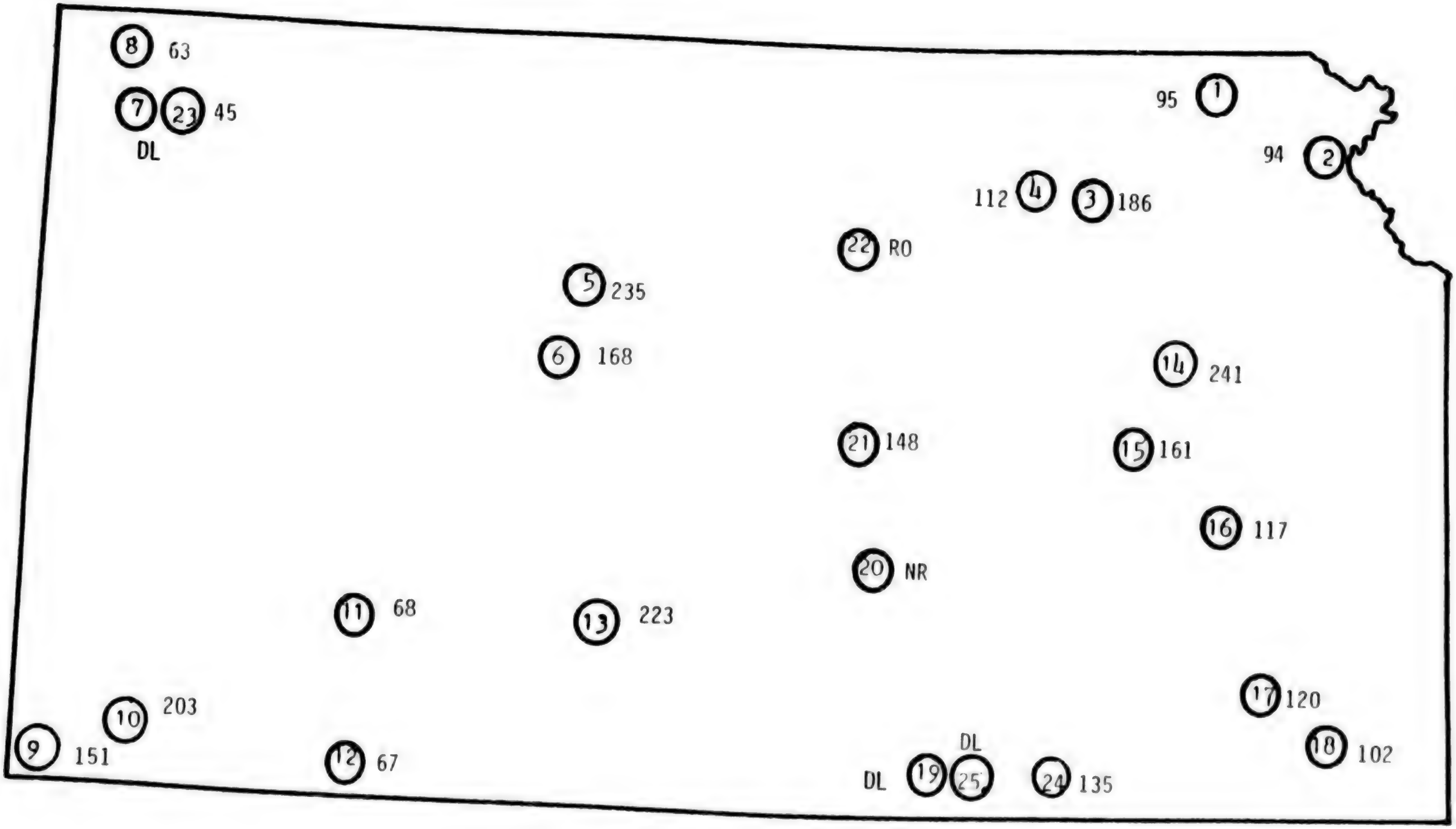


PREDATOR SURVEY LINE INDICES - 1981

STATE - ILLINOIS

LINE NO. -	1	2	3	4	5	6	7	8	9	10	AVERAGE STATE INDICES
SS-NIGHTS -	(0)	(0)	(198)	(0)	(90)	(148)	(197)	(0)	(194)	(193)	1020
COYOTE ----	0 - 0-	0 - 0-	45 - 9-	0 - 0-	78 - 7-	14 - 2-	66 -13-	0 - 0-	10 - 2-	0 - 0-	32,4
KIT FOX ---	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0,0
RED FOX ---	0 - 0	0 - 0	15 - 3	0 - 0	0 - 0	7 - 1	25 - 5	0 - 0	21 - 4	0 - 0	12,7
GRAY FOX --	0 - 0	0 - 0	86 -17	0 - 0	0 - 0	34 - 5	10 - 2	0 - 0	0 - 0	0 - 0	23,5
UNIDENTIFIE	0 - 0	0 - 0	56 -11	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	5 - 1	41 - 8	19,6
BOBCAT ----	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0,0
BADGER ----	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0,0
RACCOON ---	0 - 0	0 - 0	40 - 8	0 - 0	0 - 0	41 - 6	81 -16	0 - 0	52 -10	41 - 8	47,1
SKUNK -----	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	36 - 7	0 - 0	52 -10	16 - 3	19,6
OTHER CARNIVORES											
OPPOSSUM --	0 - 0	0 - 0	56 -11	0 - 0	0 - 0	20 - 3	76 -15	0 - 0	0 - 0	5 - 1	29,4
DOG -------	0 - 0	0 - 0	172 -34	0 - 0	133 -12	115 -17	112 -22	0 - 0	62 -12	21 - 4	99,0
CAT -------	0 - 0	0 - 0	76 -15	0 - 0	0 - 0	14 - 2	15 - 3	0 - 0	10 - 2	5 - 1	22,5

KANSAS



⑧ 63
⑦ ㉓ 45
DL
95 ①
94 ②
112 ④
③ 186
㉒ RO
⑤ 235
⑥ 168
⑭ 241
㉑ 148
⑮ 161
⑯ 117
⑳ NR
⑪ 68
⑬ 223
⑰ 120
⑩ 203
⑨ 151
⑫ 67
DL
DL ⑲ ㉕
㉔ 135
⑱ 102

BEST DOCUMENT AVAILABLE

PREDATOR SURVEY LINE INDICES - 1981

STATE - KANSAS

LINE NO. -	1	2	3	4	5	6	7	8	9	10	AVERAGE STATE INDICES
SS-NIGHTS -	(147)	(159)	(145)	(197)	(179)	(173)	(0)	(192)	(146)	(143)	3500
COYOTE ----	95 -14-	94 -15-	186 -27-	112 -22-	235 -42-	168 -29-	0 - 0-	63 -12-	151 -22-	203 -29-	136,9
KIT FOX ---	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0,0
RED FOX ---	0 - 0	6 - 1	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0,3
GRAY FOX --	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0,0
UNIDENTIFIE	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	7 - 1	0 - 0	2,6
BOBCAT ----	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0,6
BADGER ----	0 - 0	0 - 0	7 - 1	0 - 0	0 - 0	0 - 0	0 - 0	5 - 1	0 - 0	0 - 0	0,6
RACCOON ---	14 - 2	19 - 3	34 - 5	15 - 3	6 - 1	6 - 1	0 - 0	0 - 0	0 - 0	0 - 0	36,6
SKUNK -----	48 - 7	38 - 6	21 - 3	0 - 0	0 - 0	6 - 1	0 - 0	31 - 6	130 -19	70 -10	20,9
OTHER CARNIVORES											
OPPOSSUM --	0 - 0	19 - 3	34 - 5	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	11,1
DOG -------	48 - 7	138 -22	76 -11	81 -16	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	28 - 4	40,6
CAT -------	48 - 7	50 - 8	0 - 0	25 - 5	0 - 0	0 - 0	0 - 0	5 - 1	0 - 0	7 - 1	12,3
WEASEL ----	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	7 - 1	0 - 0	0,3
MINK ------	0 - 0	0 - 0	7 - 1	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	1,1

PREDATOR SURVEY LINE INDICES - 1981

STATE - KANSAS

LINE NO. -	11	12	13	14	15	16	17	18	19	20
SS-NIGHTS -	(148)	(193)	(188)	(195)	(199)	(188)	(191)	(157)	(0)	(0)
COYOTE ----	68 -10-	67 -13-	223 -42-	241 -47-	161 -32-	117 -22-	120 -23-	102 -16-	0 - 0-	0 - 0-
KIT FOX ---	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0
RED FOX ---	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0
GRAY FOX --	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0
UNIDENTIFIE	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0
BOBCAT ----	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	5 - 1	5 - 1	0 - 0	0 - 0	0 - 0
BADGER ----	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0
RACCOON ---	68 -10	78 -15	32 - 6	15 - 3	45 - 9	207 -39	89 -17	19 - 3	0 - 0	0 - 0
SKUNK -----	0 - 0	5 - 1	11 - 2	0 - 0	10 - 2	16 - 3	16 - 3	0 - 0	0 - 0	0 - 0
OTHER CARNIVORES										
OPPOSSUM --	0 - 0	0 - 0	27 - 5	26 - 5	5 - 1	32 - 6	37 - 7	6 - 1	0 - 0	0 - 0
DOG -------	0 - 0	0 - 0	0 - 0	51 -10	10 - 2	5 - 1	73 -14	197 -31	0 - 0	0 - 0
CAT -------	0 - 0	0 - 0	11 - 2	26 - 5	0 - 0	0 - 0	26 - 5	19 - 3	0 - 0	0 - 0
WEASEL ----	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0
MINK ------	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	16 - 3	0 - 0	0 - 0	0 - 0

```
                                  PREDATOR SURVEY LINE INDICES - 1981

                                             STATE - KANSAS

LINE NO. -    21        22        23        24        25
            -----     -----     -----     -----     -----     -----     -----     -----     -----     -----
SS-NIGHTS - (183)     (  0)     (177)     (  0)     (200)     (

COYOTE ----   148         0        45         0       135
                -27-      - 0-      - 8-      - 0-     -27-       -

KIT FOX ---   0 - 0     0 - 0     0 - 0     0 - 0     0 - 0

RED FOX ---   0 - 0     0 - 0     0 - 0     0 - 0     0 - 0

GRAY FOX --   0 - 0     0 - 0     0 - 0     0 - 0     0 - 0

UNIDENTIFIE   0 - 0     0 - 0    45 - 8     0 - 0     0 - 0

BOBCAT ----   0 - 0     0 - 0     0 - 0     0 - 0     0 - 0

BADGER ----   0 - 0     0 - 0     0 - 0     0 - 0     0 - 0

RACCOON --- 38 - 7      0 - 0     6 - 1     0 - 0    15 - 3

SKUNK ----- 27 - 5      0 - 0    28 - 5     0 - 0     0 - 0

OTHER CARNIVORES

OPPOSSUM -- 11 - 2      0 - 0     0 - 0     0 - 0    20 - 4

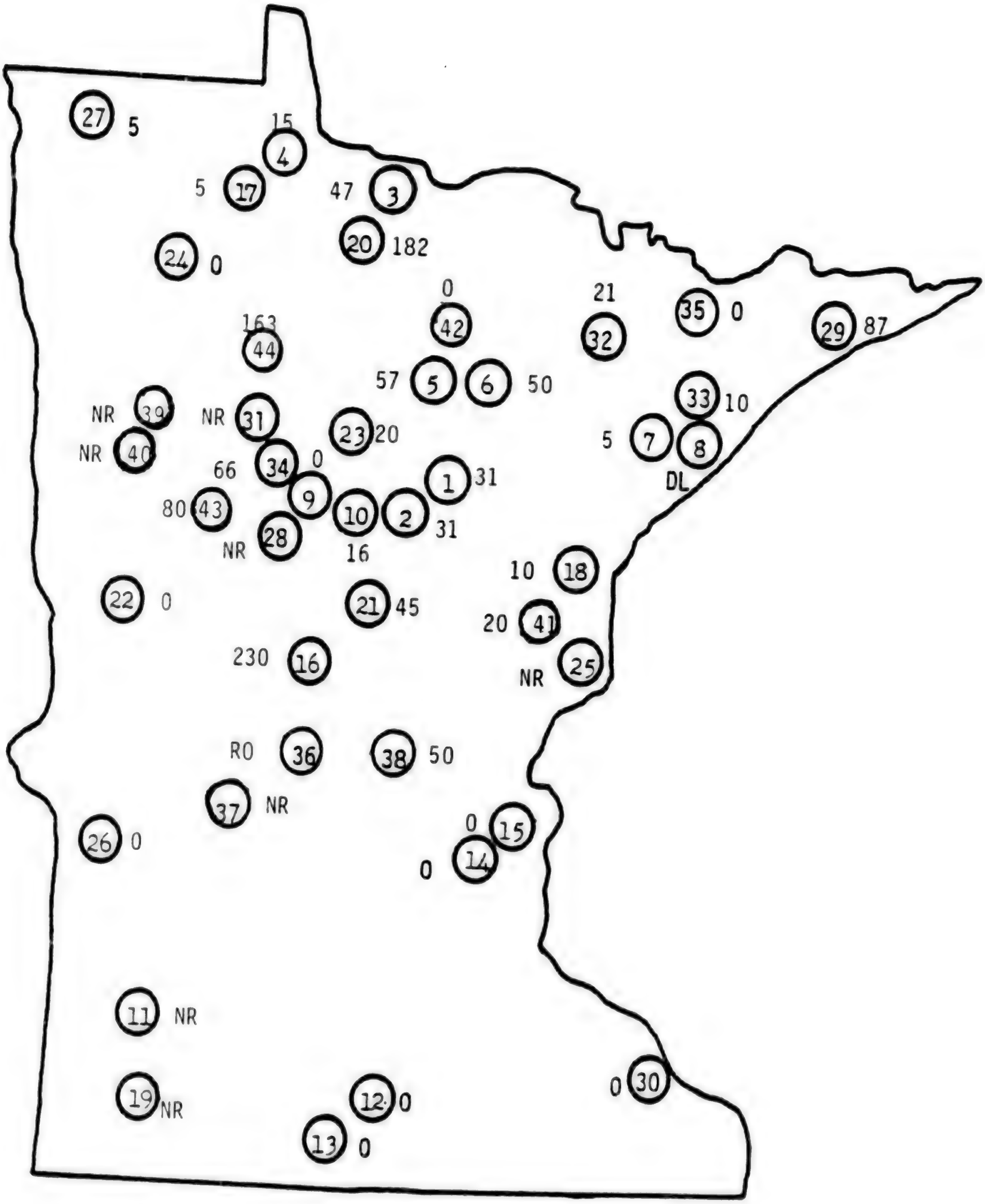
DOG ------- 33 - 6      0 - 0     0 - 0     0 - 0    90 -18

CAT ------- 11 - 2      0 - 0    23 - 4     0 - 0     0 - 0

WEASEL ----   0 - 0     0 - 0     0 - 0     0 - 0     0 - 0

MINK ------   0 - 0     0 - 0     0 - 0.    0 - 0     0 - 0
```

MINNESOTA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5 17
47 3
20 182
24 0
0 42
21 32
35 0
29 87
163 44
57 5
6 50
33 10
NR 39
NR 31
23 20
5 7
8 DL
NR 40
66 34 0
1 31
80 43
9
10 16
2 31
NR 28
10 18
22 0
21 45
20 41
230 16
NR 25
RO 36
38 50
37 NR
0 15
26 0
0 14
11 NR
0 30
19 NR
12 0
13 0

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PREDATOR SURVEY LINE INDICES - 1981

STATE - MINNESOTA

LINE NO. -	1	2	3	4	5	6	7	8	9	10	AVERAGE STATE INDICES
SS-NIGHTS -	(193)	(176)	(192)	(199)	(192)	(200)	(108)	(0)	(141)	(192)	6452
COYOTE ----	31 - 6-	31 - 6-	47 - 9-	15 - 3-	57 -11-	50 -10-	5 - 1-	0 - 0-	0 - 0-	16 - 3-	38,1
KIT FOX ---	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0,0
RED FOX ---	10 - 2	15 - 3	21 - 4	126 -25	10 - 2	40 - 8	106 -20	0 - 0	142 -20	5 - 1	40,3
GRAY FOX --	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	1,9
UNIDENTIFIE	0 - 0	0 - 0	260 -50	0 - 0	0 - 0	0 - 0	5 - 1	0 - 0	0 - 0	0 - 0	35,0
BOBCAT ----	5 - 1	0 - 0	0 - 0	0 - 0	0 - 0	10 - 2	0 - 0	0 - 0	0 - 0	0 - 0	10,2
BADGER ----	0 - 0	5 - 1	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	1,2
RACCOON ---	10 - 2	10 - 2	0 - 0	0 - 0	10 - 2	0 - 0	0 - 0	0 - 0	156 -22	89 -17	27,9
SKUNK -----	207 -40	179 -35	36 - 7	90 -18	141 -27	150 -30	0 - 0	0 - 0	163 -23	115 -22	79,2
OTHER CARNIVORES											
BEAR ------	5 - 1	0 - 0	5 - 1	15 - 3	5 - 1	0 - 0	5 - 1	0 - 0	7 - 1	16 - 3	7,0
DOG -------	16 - 3	117 -23	5 - 1	50 -10	0 - 0	10 - 2	0 - 0	0 - 0	7 - 1	78 -15	24,6
CAT -------	5 - 1	20 - 4	0 - 0	35 - 7	31 - 6	0 - 0	0 - 0	0 - 0	0 - 0	26 - 5	24,3
WEASEL ----	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	1,9
MINK ------	0 - 0	15 - 3	135 -26	5 - 1	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	17,4
LYNX ------	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0,3
GRAY WOLF -	0 - 0	0 - 0	47 - 9	0 - 0	0 - 0	30 - 6	59 -11	0 - 0	0 - 0	0 - 0	6,0

PREDATOR SURVEY LINE INDICES - 1981

STATE - MINNESOTA

LINE NO. -	11	12	13	14	15	16	17	18	19	20
SS-NIGHTS -	(0)	(191)	(195)	(199)	(196)	(200)	(197)	(199)	(0)	(198)
COYOTE ----	0 - 0-	0 - 0-	0 - 0-	0 - 0-	0 - 0-	230 -46-	5 - 1-	10 - 2-	0 - 0-	182 -36-
KIT FOX ---	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0
RED FOX ---	0 - 0	5 - 1	31 - 6	55 -11	41 - 8	10 - 2	25 - 5	5 - 1	0 - 0	61 -12
GRAY FOX --	0 - 0	5 - 1	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0
UNIDENTIFIED	0 - 0	0 - 0	5 - 1	5 - 1	5 - 1	0 - 0	0 - 0	90 -18	0 - 0	5 - 1
BOBCAT ----	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	213 -42	15 - 3	0 - 0	0 - 0
BADGER ----	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	5 - 1	0 - 0	0 - 0	0 - 0	0 - 0
RACCOON ---	0 - 0	0 - 0	0 - 0	116 -23	15 - 3	120 -24	0 - 0	25 - 5	0 - 0	0 - 0
SKUNK -----	0 - 0	5 - 1	15 - 3	80 -16	36 - 7	5 - 1	56 -11	0 - 0	0 - 0	61 -12
OTHER CARNIVORES										
BEAR ------	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	5 - 1	25 - 5	0 - 0	0 - 0	30 - 6
DOG -------	0 - 0	37 - 7	51 -10	30 - 6	204 -40	0 - 0	0 - 0	15 - 3	0 - 0	0 - 0
CAT -------	0 - 0	79 -15	72 -14	0 - 0	122 -24	0 - 0	0 - 0	15 - 3	0 - 0	0 - 0
WEASEL ----	0 - 0	0 - 0	5 - 1	0 - 0	0 - 0	0 - 0	5 - 1	5 - 1	0 - 0	0 - 0
MINK ------	0 - 0	0 - 0	0 - 0	261 -52	0 - 0	5 - 1	10 - 2	10 - 2	0 - 0	10 - 2
LYNX ------	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0
GRAY WOLF -	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0

PREDATOR SURVEY LINE INDICES - 1981

STATE - MINNESOTA

LINE NO. -	21	22	23	24	25	26	27	28	29	30
SS-NIGHTS -	(200)	(92)	(199)	(195)	(0)	(195)	(193)	(0)	(196)	(138)
COYOTE ----	45 - 9-	0 - 0-	20 - 4-	0 - 0-	0 - 0-	0 - 0-	5 - 1-	0 - 0-	87 -17-	0 - 0-
KIT FOX ---	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0
RED FOX ---	0 - 0	22 - 2	10 - 2	0 - 0	0 - 0	149 -29	98 -19	0 - 0	0 - 0	116 -16
GRAY FOX --	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	72 -10
UNIDENTIFIE	15 - 3	0 - 0	0 - 0	354 -69	0 - 0	0 - 0	5 - 1	0 - 0	133 -26	0 - 0
BOBCAT ----	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	5 - 1	0 - 0	0 - 0	0 - 0
BADGER ----	0 - 0	33 - 3	0 - 0	0 - 0	0 - 0	0 - 0	5 - 1	0 - 0	0 - 0	0 - 0
RACCOON ---	40 - 8	11 - 1	25 - 5	10 - 2	0 - 0	15 - 3	16 - 3	0 - 0	0 - 0	72 -10
SKUNK -----	25 - 5	109 -10	116 -23	246 -48	0 - 0	31 - 6	57 -11	0 - 0	20 - 4	51 - 7
OTHER CARNIVORES										
BEAR ------	30 - 6	0 - 0	5 - 1	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0
DOG -------	5 - 1	54 - 5	10 - 2	0 - 0	0 - 0	36 - 7	10 - 2	0 - 0	0 - 0	22 - 3
CAT -------	65 -13	54 - 5	35 - 7	21 - 4	0 - 0	26 - 5	0 - 0	0 - 0	0 - 0	51 - 7
WEASEL ----	0 - 0	22 - 2	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0
MINK ------	0 - 0	0 - 0	45 - 9	0 - 0	0 - 0	5 - 1	26 - 5	0 - 0	0 - 0	7 - 1
LYNX ------	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0
GRAY WOLF -	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0

PREDATOR SURVEY LINE INDICES - 1981

STATE - MINNESOTA

LINE NO. -	31	32	33	34	35	36	37	38	39	40
SS-NIGHTS -	(0)	(194)	(199)	(198)	(198)	(0)	(0)	(199)	(0)	(0)
COYOTE ----	0 - 0-	21 - 4-	10 - 2-	66 -13-	0 - 0-	0 - 0-	0 - 0-	50 -10-	0 - 0-	0 - 0-
KIT FOX ---	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0
RED FOX ---	0 - 0	5 - 1	0 - 0	0 - 0	76 -15	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0
GRAY FOX --	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0
UNIDENTIFIE	0 - 0	0 - 0	131 -26	61 -12	5 - 1	0 - 0	0 - 0	45 - 9	0 - 0	0 - 0
BOBCAT ----	0 - 0	41 - 8	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0
BADGER ----	0 - 0	0 - 0	0 - 0	5 - 1	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0
RACCOON ---	0 - 0	0 - 0	0 - 0	5 - 1	0 - 0	0 - 0	0 - 0	181 -36	0 - 0	0 - 0
SKUNK -----	0 - 0	0 - 0	0 - 0	162 -32	0 - 0	0 - 0	0 - 0	50 -10	0 - 0	0 - 0
OTHER CARNIVORES										
BEAR ------	0 - 0	26 - 5	5 - 1	5 - 1	10 - 2	0 - 0	0 - 0	5 - 1	0 - 0	0 - 0
DOG -------	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	25 - 5	0 - 0	0 - 0
CAT -------	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	30 - 6	0 - 0	0 - 0
WEASEL ----	0 - 0	15 - 3	20 - 4	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0
MINK ------	0 - 0	10 - 2	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0
LYNX ------	0 - 0	10 - 2	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0
GRAY WOLF -	0 - 0	10 - 2	5 - 1	0 - 0	10 - 2	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0

```
                                        PREDATOR SURVEY LINE INDICES - 1981

                                                  STATE - MINNESOTA

LINE NO, -   41      42      43      44
            -----   -----   -----   -----   -----   -----   -----   -----   -----   -----
SS-NIGHTS - (200)   (193)   (199)   (196)   (

COYOTE ----   20       0      80     163
               - 4-    - 0-    -16-   -32-    -

KIT FOX ---  0 - 0   0 - 0   0 - 0   0 - 0

RED FOX --- 30 - 6 181 -35   0 - 0  20 - 4

GRAY FOX --  0 - 0   0 - 0   0 - 0   5 - 1

UNIDENTIFIE  0 - 0   0 - 0  30 - 6   0 - 0

BOBCAT ---- 15 - 3  31 - 6   0 - 0   0 - 0

BADGER ----  0 - 0   0 - 0   5 - 1   0 - 0

RACCOON --- 40 - 8   0 - 0   5 - 1  10 - 2

SKUNK ----- 60 -12 207 -40 121 -24 133 -26

OTHER CARNIVORES

BEAR ------  0 - 0  26 - 5   0 - 0   0 - 0

DOG ------- 45 - 9   0 - 0  10 - 2  10 - 2

CAT -------110 -22   0 - 0  45 - 9   0 - 0

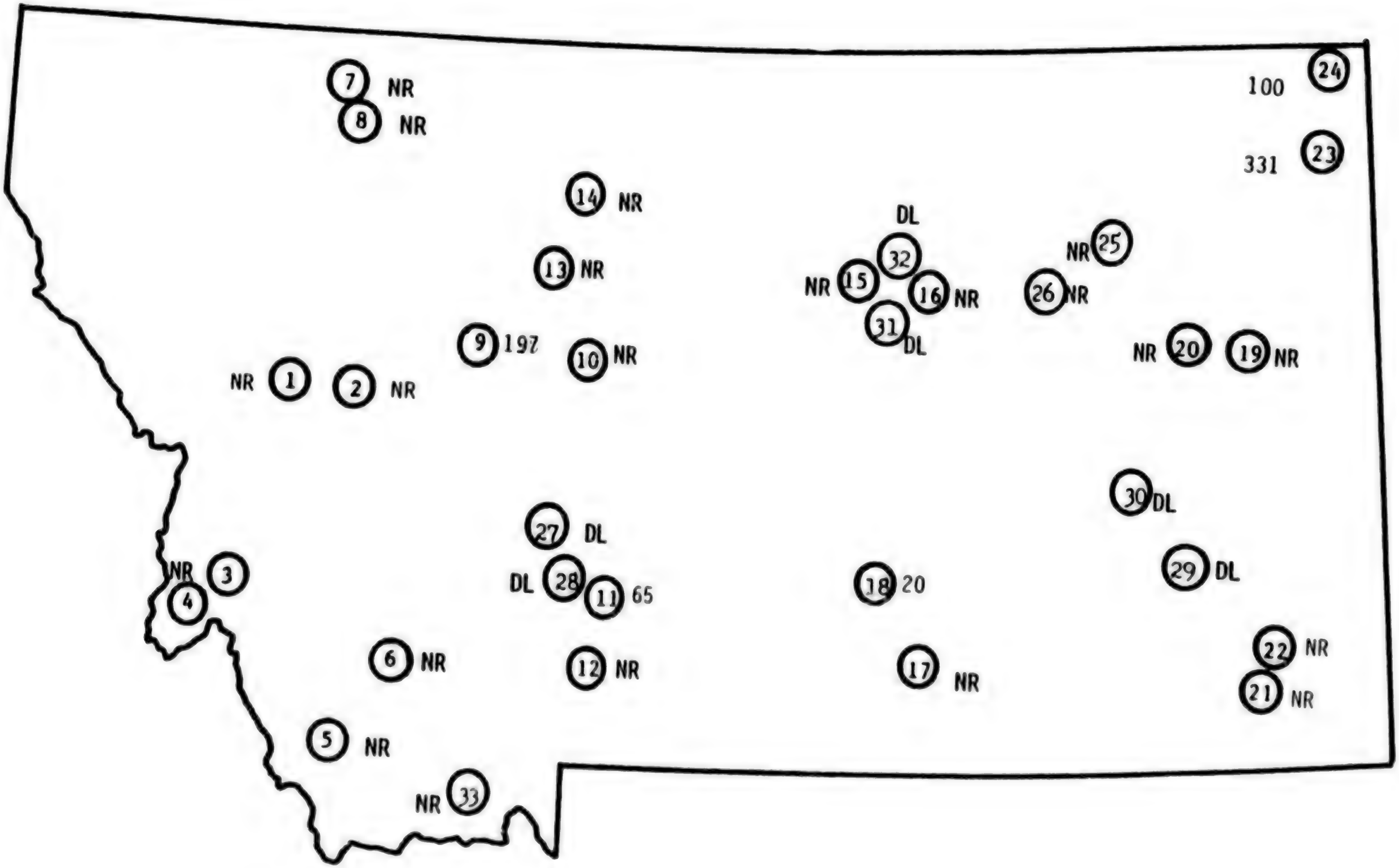
WEASEL ----  0 - 0   0 - 0   0 - 0   0 - 0

MINK ------ 15 - 3   0 - 0  10 - 2   0 - 0

LYNX ------  0 - 0   0 - 0   0 - 0   0 - 0

GRAY WOLF -  0 - 0   0 - 0  10 - 2  31 - 6
```

MONTANA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100 24
331 23
14 NR
DL
NR 25
32
13 NR
NR 15
16 NR
26 NR
31 DL
9 197
10 NR
NR 20
19 NR
NR 1
2 NR
30 DL
27 DL
NR 3
DL 28
11 65
18 20
29 DL
4
22 NR
6 NR
12 NR
17 NR
21 NR
5 NR
NR 33

PREDATOR SURVEY LINE INDICES - 1981

STATE - MONTANA

LINE NO, -	1	2	3	4	5	6	7	8	9	10	AVERAGE STATE INDICES
SS-NIGHTS -	(0)	(0)	(189)	(0)	(0)	(0)	(0)	(0)	(197)	(0)	1138
COYOTE ----	0 - 0-	0 - 0-	32 - 6-	0 - 0-	0 - 0-	0 - 0-	0 - 0-	0 - 0-	142 -28-	0 - 0-	110,7
KIT FOX ---	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0,0
RED FOX ---	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	14,9
GRAY FOX --	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0,0
UNIDENTIFIE	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0,0
BOBCAT ----	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0,0
BADGER ----	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0,0
RACCOON ---	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	25 - 5	0 - 0	7,9
SKUNK -----	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	15 - 3	0 - 0	4,4
OTHER CARNIVORES											
DOG -------	0 - 0	0 - 0	5 - 1	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	36,0
CAT -------	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	7,9

```
                                   PREDATOR SURVEY LINE INDICES - 1981

                                           STATE - MONTANA

LINE NO. -    11       12       13       14       15       16       17       18       19       20
            -----    -----    -----    -----    -----    -----    -----    -----    -----    -----
SS-NIGHTS - (200)    (  0)    (  0)    (  0)    (  0)    (  0)    (  0)    (200)    (  0)    (  0)

COYOTE ----   65        0        0        0        0        0        0       20        0        0
                -13-     - 0-     - 0-     - 0-     - 0-     - 0-     - 0-     - 4-     - 0-     - 0-

KIT FOX ---  0 - 0    0 - 0    0 - 0    0 - 0    0 - 0    0 - 0    0 - 0    0 - 0    0 - 0    0 - 0

RED FOX ---  0 - 0    0 - 0    0 - 0    0 - 0    0 - 0    0 - 0    0 - 0    0 - 0    0 - 0    0 - 0

GRAY FOX --  0 - 0    0 - 0    0 - 0    0 - 0    0 - 0    0 - 0    0 - 0    0 - 0    0 - 0    0 - 0

UNIDENTIFIE  0 - 0    0 - 0    0 - 0    0 - 0    0 - 0    0 - 0    0 - 0    0 - 0    0 - 0    0 - 0

BOBCAT ----  0 - 0    0 - 0    0 - 0    0 - 0    0 - 0    0 - 0    0 - 0    0 - 0    0 - 0    0 - 0

BADGER ----  0 - 0    0 - 0    0 - 0    0 - 0    0 - 0    0 - 0    0 - 0    0 - 0    0 - 0    0 - 0

RACCOON ---  0 - 0    0 - 0    0 - 0    0 - 0    0 - 0    0 - 0    0 - 0    0 - 0    0 - 0    0 - 0

SKUNK -----  0 - 0    0 - 0    0 - 0    0 - 0    0 - 0    0 - 0    0 - 0   10 - 2    0 - 0    0 - 0

OTHER CARNIVORES

DOG -------  0 - 0    0 - 0    0 - 0    0 - 0    0 - 0    0 - 0    0 - 0    0 - 0    0 - 0    0 - 0

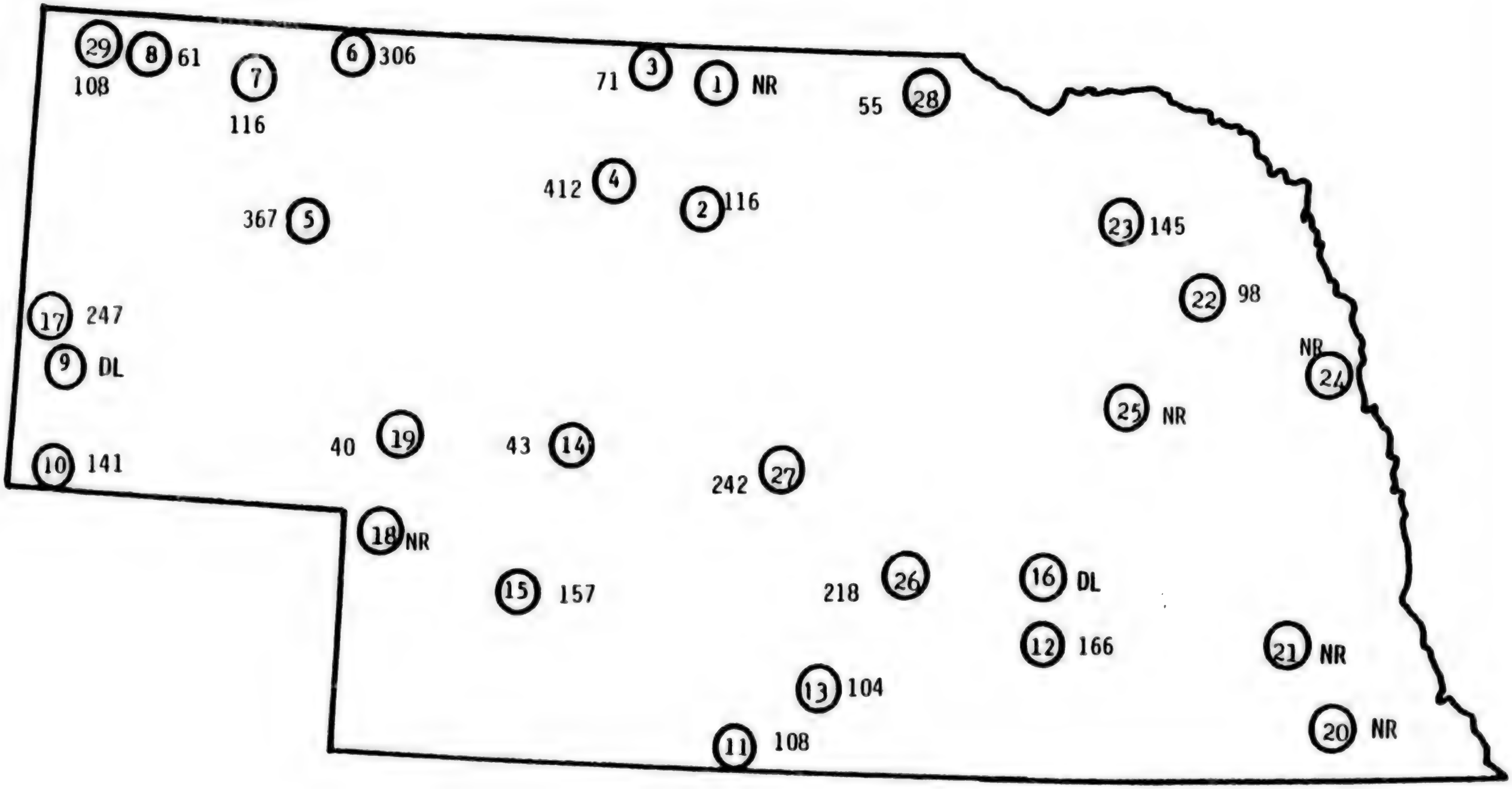
CAT -------  0 - 0    0 - 0    0 - 0    0 - 0    0 - 0    0 - 0    0 - 0    0 - 0    0 - 0    0 - 0
```

PREDATOR SURVEY LINE INDICES - 1981

STATE - MONTANA

LINE NO. -	21	22	23	24	
SS-NIGHTS -	(0)	(0)	(172)	(180)	(
COYOTE ----	0 - 0-	0 - 0-	331 -57-	100 -18-	
KIT FOX ---	0 - 0	0 - 0	0 - 0	0 - 0	
RED FOX ---	0 - 0	0 - 0	12 - 2	83 -15	
GRAY FOX --	0 - 0	0 - 0	0 - 0	0 - 0	
UNIDENTIFIE	0 - 0	0 - 0	0 - 0	0 - 0	
BOBCAT ----	0 - 0	0 - 0	0 - 0	0 - 0	
BADGER ----	0 - 0	0 - 0	0 - 0	0 - 0	
RACCOON ---	0 - 0	0 - 0	6 - 1	17 - 3	
SKUNK -----	0 - 0	0 - 0	0 - 0	0 - 0	
OTHER CARNIVORES					
DOG -------	0 - 0	0 - 0	35 - 6	189 -34	
CAT -------	0 - 0	0 - 0	6 - 1	44 - 8	

NEBRASKA


29 108
8 61
7 116
6 306
3 71
1 NR
28 55
4 412
2 116
5 367
23 145
22 98
17 247
9 DL
24 NR
25 NR
19 40
14 43
10 141
27 242
18 NR
15 157
26 218
16 DL
12 166
21 NR
13 104
11 108
20 NR

PREDATOR SURVEY LINE INDICES - 1981

STATE - NEBRASKA

LINE NO. -	1	2	3	4	5	6	7	8	9	10	AVERAGE STATE INDICES
SS-NIGHTS -	(0)	(198)	(197)	(199)	(199)	(193)	(189)	(181)	(0)	(163)	3781
COYOTE ----	0 - 0-	116 -23-	71 -14-	412 -82-	367 -73-	306 -59-	116 -22-	61 -11-	0 - 0-	141 -23-	159,7
KIT FOX ---	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0,0
RED FOX ---	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	6 - 1	0 - 0	0 - 0	2,4
GRAY FOX --	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0,0
UNIDENTIFIE	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	6 - 1	0,3
BOBCAT ----	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0,0
BADGER ----	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	6 - 1	8,2
RACCOON ---	0 - 0	35 - 7	5 - 1	5 - 1	0 - 0	10 - 2	48 - 9	22 - 4	0 - 0	0 - 0	27,5
SKUNK -----	0 - 0	0 - 0	5 - 1	10 - 2	15 - 3	10 - 2	58 -11	44 - 8	0 - 0	74 -12	31,5
OTHER CARNIVORES											
OPPOSSUM --	0 - 0	5 - 1	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	2,1
DOG -------	0 - 0	5 - 1	10 - 2	0 - 0	5 - 1	0 - 0	5 - 1	33 - 6	0 - 0	0 - 0	7,9
CAT -------	0 - 0	15 - 3	10 - 2	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	6 - 1	5,0
WEASEL ----	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	1,3

PREDATOR SURVEY LINE INDICES - 1981

STATE - NEBRASKA

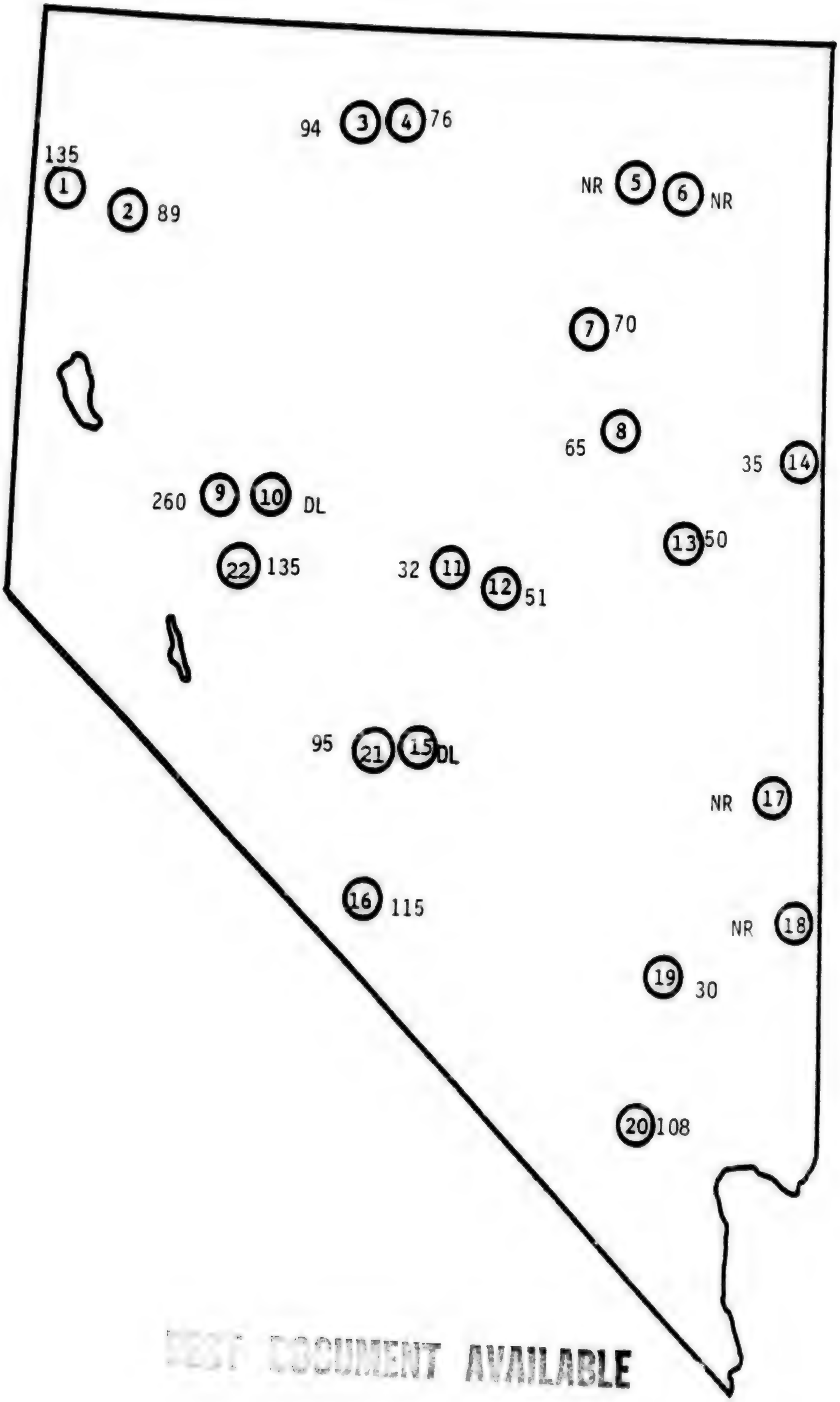
LINE NO. -	11	12	13	14	15	16	17	18	19	20
SS-NIGHTS -	(195)	(169)	(193)	(185)	(178)	(0)	(198)	(0)	(200)	(0)
COYOTE ----	108 -21-	166 -28-	104 -20-	43 - 8-	157 -28-	0 - 0-	247 -49-	0 - 0-	40 - 8-	0 - 0-
KIT FOX ---	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0
RED FOX ---	0 - 0	12 - 2	0 - 0	0 - 0	0 - 0	0 - 0	10 - 2	0 - 0	0 - 0	0 - 0
GRAY FOX --	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0
UNIDENTIFIE	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0
BOBCAT ----	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0
BADGER ----	10 - 2	36 - 6	16 - 3	0 - 0	28 - 5	0 - 0	10 - 2	0 - 0	10 - 2	0 - 0
RACCOON ---	31 - 6	65 -11	41 - 8	0 - 0	34 - 6	0 - 0	5 - 1	0 - 0	15 - 3	0 - 0
SKUNK -----	36 - 7	53 - 9	36 - 7	0 - 0	67 -12	0 - 0	51 -10	0 - 0	25 - [illegible]	0 - 0
OTHER CARNIVORES										
OPPOSSUM --	15 - 3	0 - 0	10 - 2	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	5 - 1	0 - 0
DOG -------	26 - 5	0 - 0	0 - 0	16 - 3	0 - 0	0 - 0	0 - 0	0 - 0	5 - 1	0 - 0
CAT -------	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	25 - 5	0 - 0	0 - 0	0 - 0
WEASEL ----	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	25 - 5	0 - 0

PREDATOR SURVEY LINE INDICES - 1981

STATE - NEBRASKA

LINE NO. -	21	22	23	24	25	26	27	28	29	
SS-NIGHTS -	(0)	(143)	(117)	(0)	(0)	(124)	(194)	(181)	(185)	(
COYOTE ----	0 - 0-	98 -14-	145 -17-	0 - 0-	0 - 0-	218 -27-	242 -47-	55 -10-	108 -20-	-
KIT FOX ---	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	
RED FOX ---	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	22 - 4	
GRAY FOX --	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	
UNIDENTIFIE	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	
BOBCAT ----	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	
BADGER ----	0 - 0	0 - 0	9 - 1	0 - 0	0 - 0	0 - 0	5 - 1	17 - 3	27 - 5	
RACCOON ---	0 - 0	56 - 8	94 -11	0 - 0	0 - 0	0 - 0	26 - 5	17 - 3	97 -18	
SKUNK -----	0 - 0	21 - 3	43 - 5	0 - 0	0 - 0	24 - 3	31 - 6	11 - 2	59 -11	
OTHER CARNIVORES										
OPPOSSUM --	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	8 - 1	0 - 0	0 - 0	0 - 0	
DOG -------	0 - 0	42 - 6	17 - 2	0 - 0	0 - 0	0 - 0	0 - 0	11 - 2	0 - 0	
CAT -------	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	24 - 3	15 - 3	11 - 2	0 - 0	
WEASEL ----	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	

NEVADA


135
1
2
89
94
3
4
76
NR
5
6
NR
7
70
65
8
35
14
260
9
10
DL
13
50
22
135
32
11
12
51
95
21
15
DL
NR
17
16
115
NR
18
19
30
20
108

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PREDATOR SURVEY LINE INDICES - 1981

STATE - NEVADA

LINE NO. -	1	2	3	4	5	6	7	8	9	10	AVERAGE STATE INDICES
SS-NIGHTS -	(178)	(190)	(139)	(197)	(0)	(0)	(200)	(200)	(200)	(0)	3001
COYOTE ----	135 -24-	89 -17-	94 -13-	76 -15-	0 - 0-	0 - 0-	70 -14-	65 -13-	260 -52-	0 - 0-	91.0
KIT FOX ---	17 - 3	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	20 - 4	0 - 0	15.0
RED FOX ---	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0.0
GRAY FOX --	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0.3
UNIDENTIFIE	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	2.7
BOBCAT ----	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	1.0
BADGER ----	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0.0
RACCOON ---	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0.0
SKUNK -----	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	5 - 1	0 - 0	0 - 0	0 - 0	0.3
OTHER CARNIVORES											
DOG -------	0 - 0	11 - 2	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0.7

PREDATOR SURVEY LINE INDICES - 1981

STATE - NEVADA

LINE NO. -	11	12	13	14	15	16	17	18	19	20
SS-NIGHTS -	(125)	(196)	(200)	(200)	(0)	(191)	(0)	(0)	(200)	(185)
COYOTE ----	32 - 4-	51 -10-	50 -10-	35 - 7-	0 - 0-	115 -22-	0 - 0-	0 - 0-	30 - 6-	108 -20-
KIT FOX ---	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	73 -14	0 - 0	0 - 0	0 - 0	49 - 9
RED FOX ---	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0
GRAY FOX --	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0
UNIDENTIFIE	0 - 0	0 - 0	0 - 0	10 - 2	0 - 0	0 - 0	0 - 0	0 - 0	30 - 6	0 - 0
BOBCAT ----	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0
BADGER ----	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0
RACCOON ---	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0
SKUNK -----	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0
OTHER CARNIVORES										
DOG -------	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0

```
                                   PREDATOR SURVEY LINE INDICES - 1981

                                             STATE - NEVADA

LINE NO. -    21       22
             -----    -----    -----    -----    -----    -----    -----    -----    -----    -----
SS-NIGHTS - (200)    (200)    (

COYOTE ----   95      135
                -19-     -27-     -

KIT FOX ---  0 - 0   75 -15

RED FOX ---  0 - 0    0 - 0

GRAY FOX --  5 - 1    0 - 0

UNIDENTIFIE  0 - 0    0 - 0

BOBCAT ----  0 - 0   15 - 3

BADGER ----  0 - 0    0 - 0

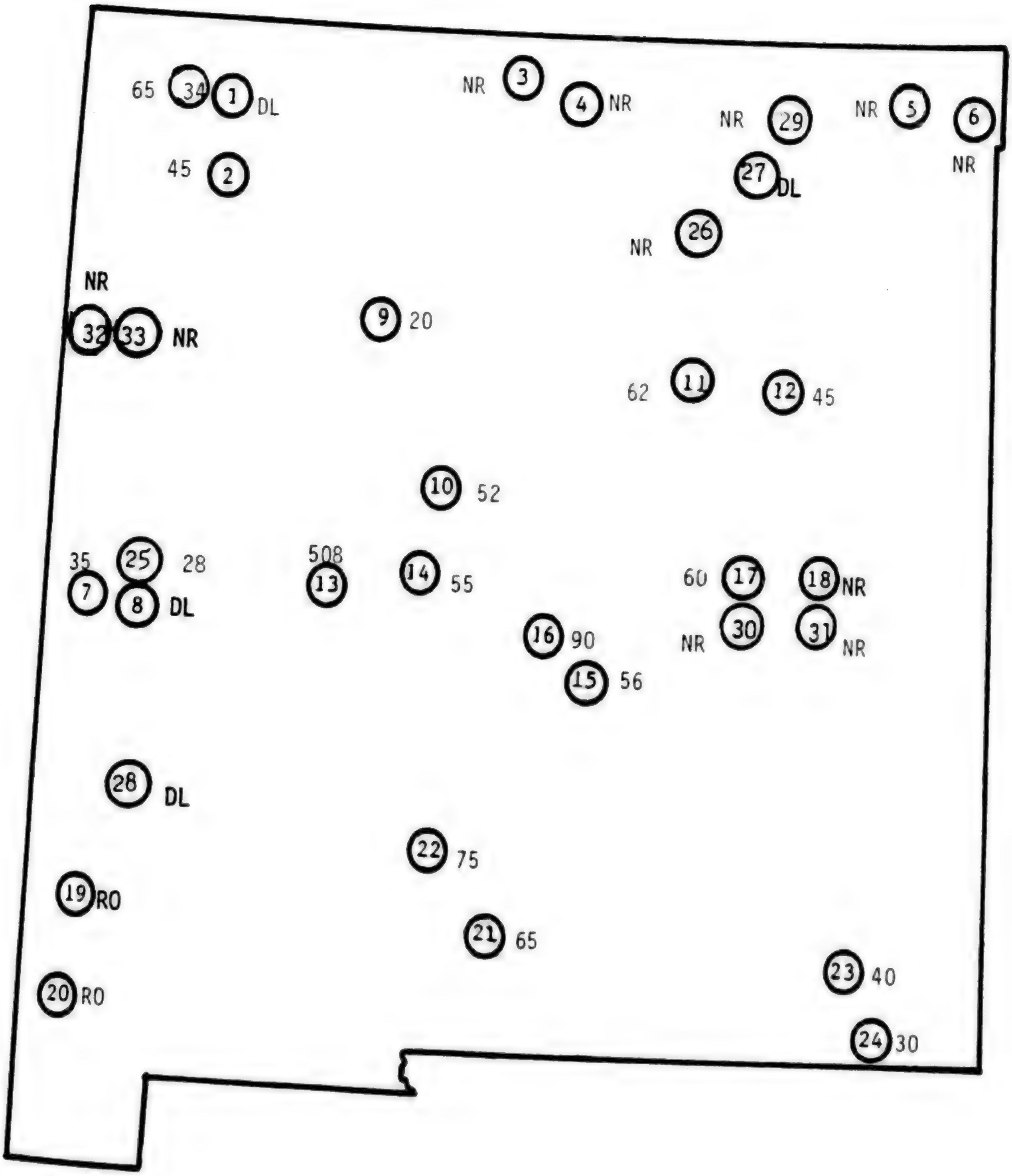
RACCOON ---  0 - 0    0 - 0

SKUNK -----  0 - 0    0 - 0

OTHER CARNIVORES

DOG -------  0 - 0    0 - 0
```

NEW MEXICO


65
34
1
DL
NR
3
4
NR
NR
29
NR
5
6
NR
45
2
27
DL
NR
26
NR
32
33
NR
9
20
62
11
12
45
10
52
35
25
28
508
13
14
55
7
8
DL
60
17
18
NR
NR
30
31
NR
16
90
15
56
28
DL
22
75
19
RO
21
65
23
40
20
RO
24
30

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PREDATOR SURVEY LINE INDICES - 1981

STATE - NEW MEXICO

LINE NO. -	1	2	3	4	5	6	7	8	9	10	AVERAGE STATE INDICES
SS-NIGHTS -	(0)	(200)	(0)	(0)	(0)	(0)	(200)	(0)	(153)	(172)	3170
COYOTE ----	0 - 0-	45 - 9-	0 - 0-	0 - 0-	0 - 0-	0 - 0-	35 - 7-	0 - 0-	20 - 3-	52 - 9-	79,3
KIT FOX ---	0 - 0	5 - 1	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	13 - 2	35 - 6	9,4
RED FOX ---	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0,0
GRAY FOX --	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	39 - 6	0 - 0	2,2
UNIDENTIFIE	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	16,0
BOBCAT ----	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	13 - 2	0 - 0	0,9
BADGER ----	0 - 0	5 - 1	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	23 - 4	5,3
RACCOON ---	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0,0
SKUNK -----	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	7,2
OTHER CARNIVORES											
DOG -------	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	6 - 1	1,3
CAT -------	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0,3

PREDATOR SURVEY LINE INDICES - 1981

STATE - NEW MEXICO

LINE NO. -	11	12	13	14	15	16	17	18	19	20
SS-NIGHTS -	(195)	(199)	(189)	(200)	(142)	(200)	(184)	(0)	(0)	(0)
COYOTE ----	62 -12-	45 - 9-	508 -76-	55 -11-	56 - 8-	90 -18-	60 -11-	0 - 0-	0 - 0-	0 - 0-
KIT FOX ---	0 - 0	0 - 0	0 - 0	40 - 8	0 - 0	60 -12	0 - 0	0 - 0	0 - 0	0 - 0
RED FOX ---	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0
GRAY FOX --	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0
UNIDENTIFIE	0 - 0	0 - 0	127 -24	0 - 0	14 - 2	0 - 0	125 -23	0 - 0	0 - 0	0 - 0
BOBCAT ----	5 - 1	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0
BADGER ----	0 - 0	0 - 0	0 - 0	0 - 0	63 - 9	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0
RACCOON ---	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0
SKUNK -----	0 - 0	0 - 0	5 - 1	0 - 0	56 - 8	0 - 0	76 -14	0 - 0	0 - 0	0 - 0
OTHER CARNIVORES										
DOG -------	10 - 2	5 - 1	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0
CAT -------	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	5 - 1	0 - 0	0 - 0	0 - 0

BEST DOCUMENT AVAILABLE

PREDATOR SURVEY LINE INDICES - 1981

STATE - NEW MEXICO

LINE NO. -	21	22	23	24	25	26	27	28	29	30
SS-NIGHTS -	(200)	(199)	(200)	(200)	(145)	(0)	(0)	(0)	(0)	(0)
COYOTE ----	65 -13-	75 -15-	40 - 8-	30 - 6-	28 - 4-	0 - 0-	0 - 0-	0 - 0-	0 - 0-	0 - 0-
KIT FOX ---	5 - 1	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0
RED FOX ---	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0
GRAY FOX --	0 - 0	5 - 1	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0
UNIDENTIFIE	0 - 0	10 - 2	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0
BOBCAT ----	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0
BADGER ----	0 - 0	0 - 0	5 - 1	5 - 1	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0
RACCOON ---	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0
SKUNK -----	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0
OTHER CARNIVORES										
DOG -------	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0
CAT -------	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0

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                              PREDATOR SURVEY LINE INDICES - 1981

                                        STATE - NEW MEXICO

LINE NO. -    31        32        33        34
             ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
SS-NIGHTS - (   0)    (   0)    (   0)    (200)     (

COYOTE ----     0         0         0        65
                  - 0-      - 0-      - 0-      -13-      -

KIT FOX ---   0 - 0     0 - 0     0 - 0     0 - 0

RED FOX ---   0 - 0     0 - 0     0 - 0     0 - 0

GRAY FOX --   0 - 0     0 - 0     0 - 0     0 - 0

UNIDENTIFIE   0 - 0     0 - 0     0 - 0     0 - 0

BOBCAT ----   0 - 0     0 - 0     0 - 0     0 - 0

BADGER ----   0 - 0     0 - 0     0 - 0     5 - 1

RACCOON ---   0 - 0     0 - 0     0 - 0     0 - 0

SKUNK -----   0 - 0     0 - 0     0 - 0     0 - 0

OTHER CARNIVORES

DOG -------   0 - 0     0 - 0     0 - 0     0 - 0

CAT -------   0 - 0     0 - 0     0 - 0     0 - 0
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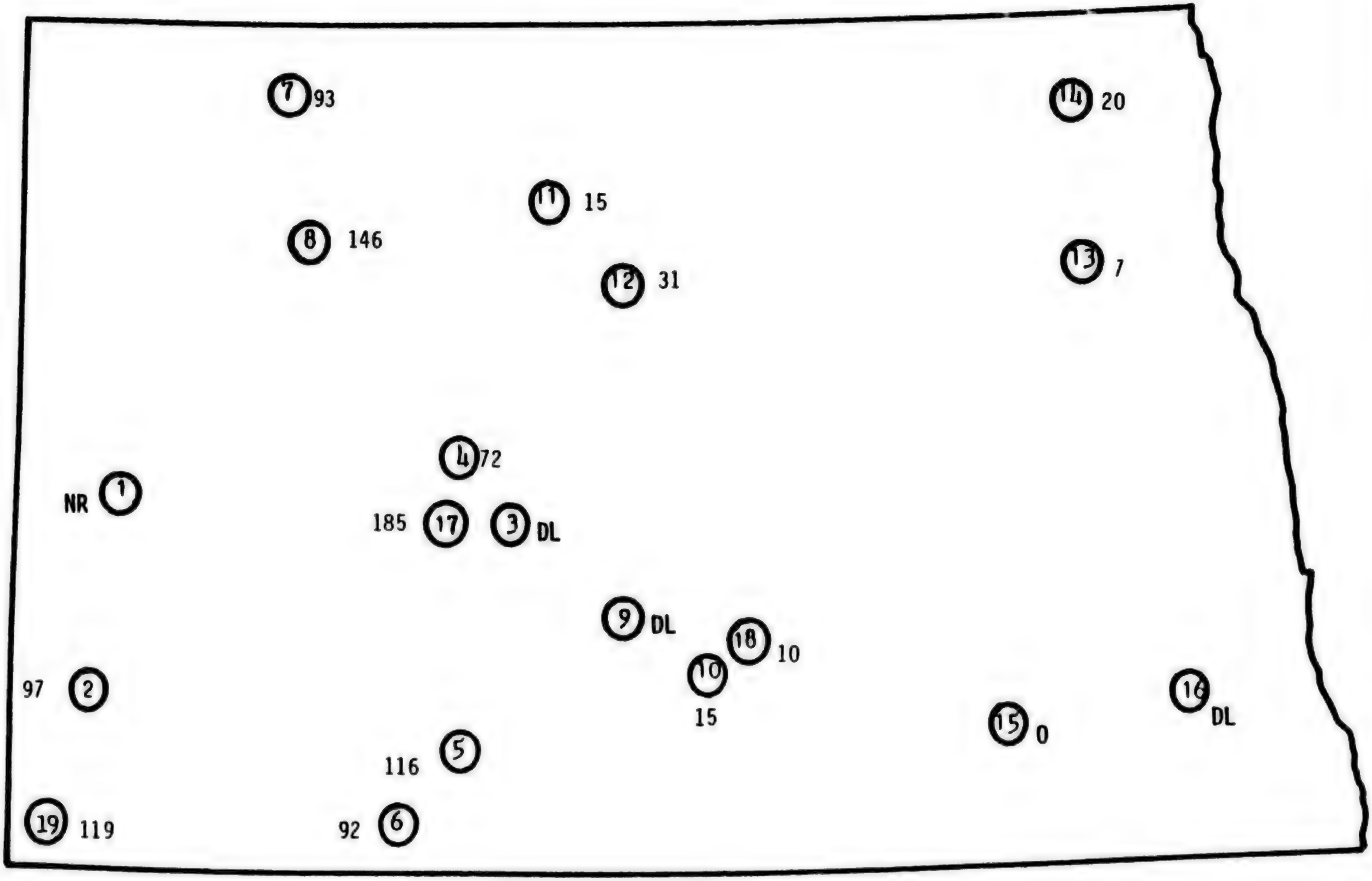
NORTH DAKOTA



PREDATOR SURVEY LINE INDICES - 1981

STATE - NORTH DAKOTA

LINE NO. -	1	2	3	4	5	6	7	8	9	10	AVERAGE STATE INDICES
SS-NIGHTS -	(0)	(176)	(0)	(194)	(199)	(195)	(193)	(199)	(0)	(199)	2802
COYOTE ----	0 - 0-	97 -17-	0 - 0-	72 -14-	116 -23-	92 -18-	93 -18-	146 -29-	0 - 0-	15 - 3-	70,3
KIT FOX ---	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0,0
RED FOX ---	0 - 0	0 - 0	0 - 0	0 - 0	116 -23	133 -26	223 -43	50 -10	0 - 0	20 - 4	85,3
GRAY FOX --	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0,0
UNIDENTIFIE	0 - 0	0 - 0	0 - 0	26 - 5	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	3,9
BOBCAT ----	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0,0
BADGER ----	0 - 0	11 - 2	0 - 0	5 - 1	10 - 2	10 - 2	21 - 4	0 - 0	0 - 0	0 - 0	9,3
RACCOON ---	0 - 0	40 - 7	0 - 0	5 - 1	25 - 5	5 - 1	31 - 6	80 -16	0 - 0	0 - 0	22,8
SKUNK -----	0 - 0	117 -21	0 - 0	62 -12	40 - 8	46 - 9	119 -23	25 - 5	0 - 0	101 -20	65,0
OTHER CARNIVORES											
DOG -------	0 - 0	0 - 0	0 - 0	31 - 6	0 - 0	0 - 0	0 - 0	5 - 1	0 - 0	0 - 0	10,0
CAT -------	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0,7

```
                                   PREDATOR SURVEY LINE INDICES - 1981

                                               STATE - NORTH DAKOTA

LINE NO. -    11        12        13        14        15        16        17        18        19
            -----     -----     -----     -----     -----     -----     -----     -----     -----     -----
SS-NIGHTS - (195)     (191)     (147)     (148)     (177)     (  0)     (200)     (196)     (193)     (

COYOTE ----   15        31         7        20         0         0       185        10       119
               - 3-      - 6-      - 1-      - 3-      - 0-      - 0-      -37-      - 2-      -23-      -

KIT FOX ---  0 - 0     0 - 0     0 - 0     0 - 0     0 - 0     0 - 0     0 - 0     0 - 0     0 - 0

RED FOX ---154 -30    42 - 8   163 -24    54 - 8   107 -19     0 - 0     0 - 0    46 - 9   181 -35

GRAY FOX --  0 - 0     0 - 0     0 - 0     0 - 0     0 - 0     0 - 0     0 - 0     0 - 0     0 - 0

UNIDENTIFIE  0 - 0     0 - 0     0 - 0     0 - 0     0 - 0     0 - 0    30 - 6     0 - 0     0 - 0

BOBCAT ----  0 - 0     0 - 0     0 - 0     0 - 0     0 - 0     0 - 0     0 - 0     0 - 0     0 - 0

BADGER ---- 31 - 6    10 - 2     7 - 1     0 - 0    23 - 4     0 - 0     0 - 0     0 - 0    10 - 2

RACCOON ---  5 - 1     5 - 1     7 - 1     7 - 1    68 -12     0 - 0    10 - 2     0 - 0    52 -10

SKUNK ----- 21 - 4     5 - 1     7 - 1     0 - 0    90 -16     0 - 0    25 - 5   102 -20   192 -37

OTHER CARNIVORES

DOG ------- 31 - 6     0 - 0    68 -10    14 - 2     6 - 1     0 - 0     5 - 1     5 - 1     0 - 0

CAT -------  0 - 0     0 - 0     7 - 1     0 - 0     6 - 1     0 - 0     0 - 0     0 - 0     0 - 0
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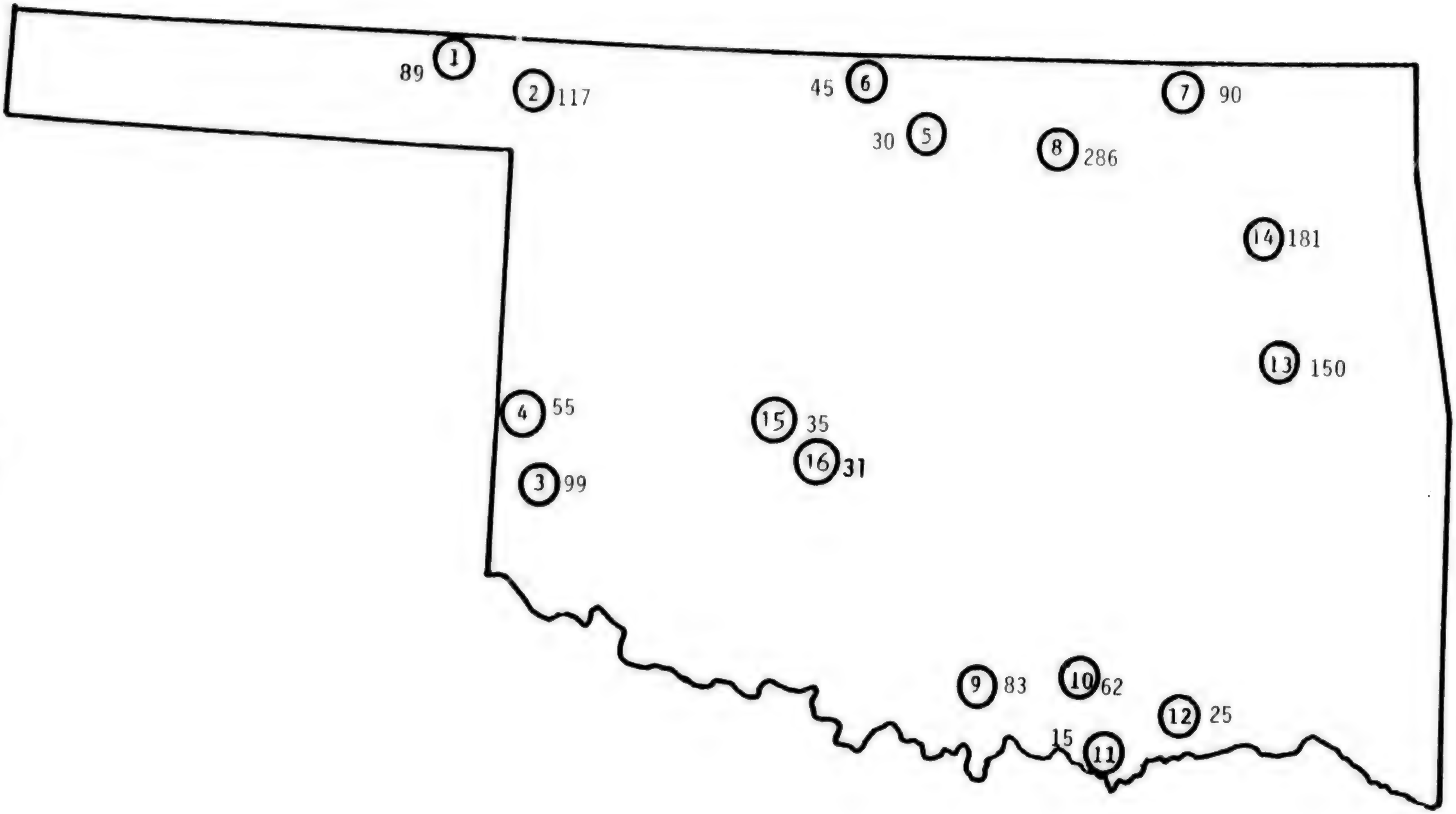
OKLAHOMA



① 89
② 117
③ 99
④ 55
⑤ 30
⑥ 45
⑦ 90
⑧ 286
⑨ 83
⑩ 62
⑪ 15
⑫ 25
⑬ 150
⑭ 181
⑮ 35
⑯ 31

PREDATOR SURVEY LINE INDICES - 1981

STATE - OKLAHOMA

LINE NO. -	1	2	3	4	5	6	7	8	9	10	AVERAGE STATE INDICES
SS-NIGHTS -	(191)	(177)	(192)	(127)	(197)	(198)	(200)	(199)	(192)	(194)	3011
COYOTE ----	89 -17-	117 -23-	99 -19-	55 - 7-	30 - 6-	45 - 9-	90 -18-	286 -57-	83 -16-	62 -12-	89,0
KIT FOX ---	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0,0
RED FOX ---	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0,0
GRAY FOX --	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	10 - 2	0 - 0	1,0
UNIDENTIFIE	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0,0
BOBCAT ----	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0,7
BADGER ----	0 - 0	5 - 1	0 - 0	0 - 0	20 - 4	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	2,0
RACCOON ---	16 - 3	0 - 0	0 - 0	0 - 0	0 - 0	5 - 1	5 - 1	5 - 1	5 - 1	26 - 5	19,6
SKUNK -----	58 -11	86 -17	31 - 6	0 - 0	20 - 4	20 - 4	0 - 0	5 - 1	47 - 9	67 -13	53,8
OTHER CARNIVORES											
OPPOSSUM --	0 - 0	0 - 0	0 - 0	0 - 0	5 - 1	20 - 4	0 - 0	0 - 0	21 - 4	41 - 8	33,5
DOG -------	0 - 0	0 - 0	0 - 0	0 - 0	10 - 2	25 - 5	20 - 4	0 - 0	146 -28	201 -39	70,7
CAT -------	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	10 - 2	0 - 0	0 - 0	36 - 7	15 - 3	20,6
ARMADILLO -	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	6,6

```
                               PREDATOR SURVEY LINE INDICES - 1981

                                        STATE - OKLAHOMA

LINE NO. -   11        12        13        14        15        16
            -----     -----     -----     -----     -----     -----     -----     -----     -----     -----
SS-NIGHTS - (170)     (200)     (200)     (173)     (172)     (161)     (

COYOTE ----   15        25       150       181        35        31
               - 3-      - 5-     -30-      -35-      - 6-      - 5-

KIT FOX ---  0 - 0     0 - 0     0 - 0     0 - 0     0 - 0     0 - 0

RED FOX ---  0 - 0     0 - 0     0 - 0     0 - 0     0 - 0     0 - 0

GRAY FOX --  0 - 0     0 - 0     0 - 0     5 - 1     0 - 0     0 - 0

UNIDENTIFIE  0 - 0     0 - 0     0 - 0     0 - 0     0 - 0     0 - 0

BOBCAT ----  0 - 0     0 - 0     5 - 1     0 - 0     0 - 0     6 - 1

BADGER ----  0 - 0     0 - 0     0 - 0     0 - 0     6 - 1     0 - 0

RACCOON --- 30 - 6    10 - 2   110 -22    73 -14    12 - 2     6 - 1

SKUNK ----- 35 - 7    85 -17   130 -26   145 -28    52 - 9    62 -10

OTHER CARNIVORES

OPPOSSUM -- 25 - 5    15 - 3   175 -35   176 -34    29 - 5    12 - 2

DOG -------101 -20    75 -15   195 -39   109 -21   116 -20   124 -20

CAT ------- 25 - 5    40 - 8   110 -22    47 - 9    17 - 3    19 - 3

ARMADILLO - 56 -11    45 - 9     0 - 0     0 - 0     0 - 0     0 - 0
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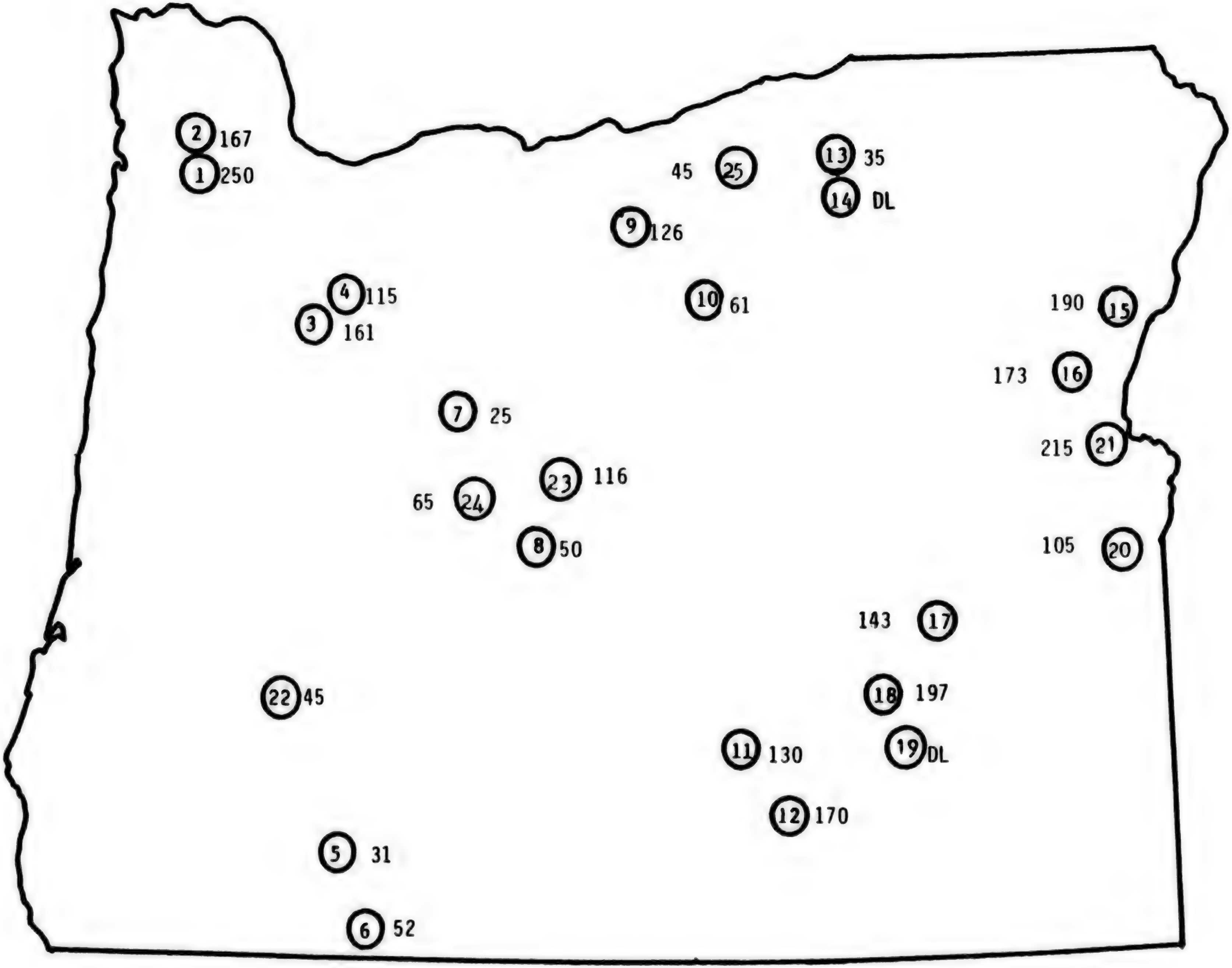
OREGON



2 167
1 250
45 25
13 35
14 DL
9 126
4 115
3 161
10 61
190 15
173 16
7 25
215 21
23 116
65 24
8 50
105 20
143 17
22 45
18 197
11 130
19 DL
12 170
5 31
6 52

PREDATOR SURVEY LINE INDICES - 1981

STATE - OREGON

LINE NO. -	1	2	3	4	5	6	7	8	9	10	AVERAGE STATE INDICES
SS-NIGHTS -	(200)	(186)	(179)	(200)	(194)	(194)	(200)	(200)	(199)	(197)	4503
COYOTE ----	250	167	161	115	31	52	25	50	126	61	115,3
	-50-	-31-	-32-	-23-	- 6-	-10-	- 5-	-10-	-25-	-12-	
KIT FOX ---	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0,0
RED FOX ---	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0,0
GRAY FOX --	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0,0
UNIDENTIFIE	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0,0
BOBCAT ----	0 - 0	0 - 0	25 - 5	5 - 1	0 - 0	10 - 2	0 - 0	10 - 2	0 - 0	5 - 1	2,9
BADGER ----	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	2,4
RACCOON ---	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0,4
SKUNK -----	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	5 - 1	0 - 0	0 - 0	0 - 0	0 - 0	0,2
OTHER CARNIVORES											
BEAR ------	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0,7
DOG -------	0 - 0	0 - 0	0 - 0	25 - 5	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	1,3
CAT -------	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0,2
MT. LION --	0 - 0	0 - 0	0 - 0	0 - 0	5 - 1	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0,2

PREDATOR SURVEY LINE INDICES - 1981

STATE - OREGON

LINE NO. -	11	12	13	14	15	16	17	18	19	20
SS-NIGHTS -	(200)	(200)	(200)	(0)	(200)	(150)	(189)	(198)	(0)	(200)
COYOTE ----	130 -26-	170 -34-	35 - 7-	0 - 0-	190 -38-	173 -26-	143 -27-	197 -39-	0 - 0-	105 -21-
KIT FOX ---	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0
RED FOX ---	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0
GRAY FOX --	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0
UNIDENTIFIE	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0
BOBCAT ----	5 - 1	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0
BADGER ----	0 - 0	0 - 0	20 - 4	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	25 - 5
RACCOON ---	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	10 - 2	0 - 0	0 - 0
SKUNK -----	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0
OTHER CARNIVORES										
BEAR ------	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0
DOG -------	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0
CAT -------	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0
MT. LION --	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0

```
                              PREDATOR SURVEY LINE INDICES - 1981

                                       STATE - OREGON

LINE NO. -    21  .    22      23      24      25
             -----    -----   -----   -----   -----   -----   -----   -----   -----   -----
SS-NIGHTS - (200)    (199)   (198)   (200)   (200)   (

COYOTE ----  215       45     116      65      45
                -43-     - 9-    -23-    -13-    - 9-    -

KIT FOX ---  0 - 0    0 - 0   0 - 0   0 - 0   0 - 0

RED FOX ---  0 - 0    0 - 0   0 - 0   0 - 0   0 - 0

GRAY FOX --  0 - 0    0 - 0   0 - 0   0 - 0   0 - 0

UNIDENTIFIE  0 - 0    0 - 0   0 - 0   0 - 0   0 - 0

BOBCAT ----  0 - 0    0 - 0   0 - 0   5 - 1   0 - 0

BADGER ----  0 - 0    0 - 0   0 - 0   0 - 0  10 - 2

RACCOON ---  0 - 0    0 - 0   0 - 0   0 - 0   0 - 0

SKUNK -----  0 - 0    0 - 0   0 - 0   0 - 0   0 - 0

OTHER CARNIVORES

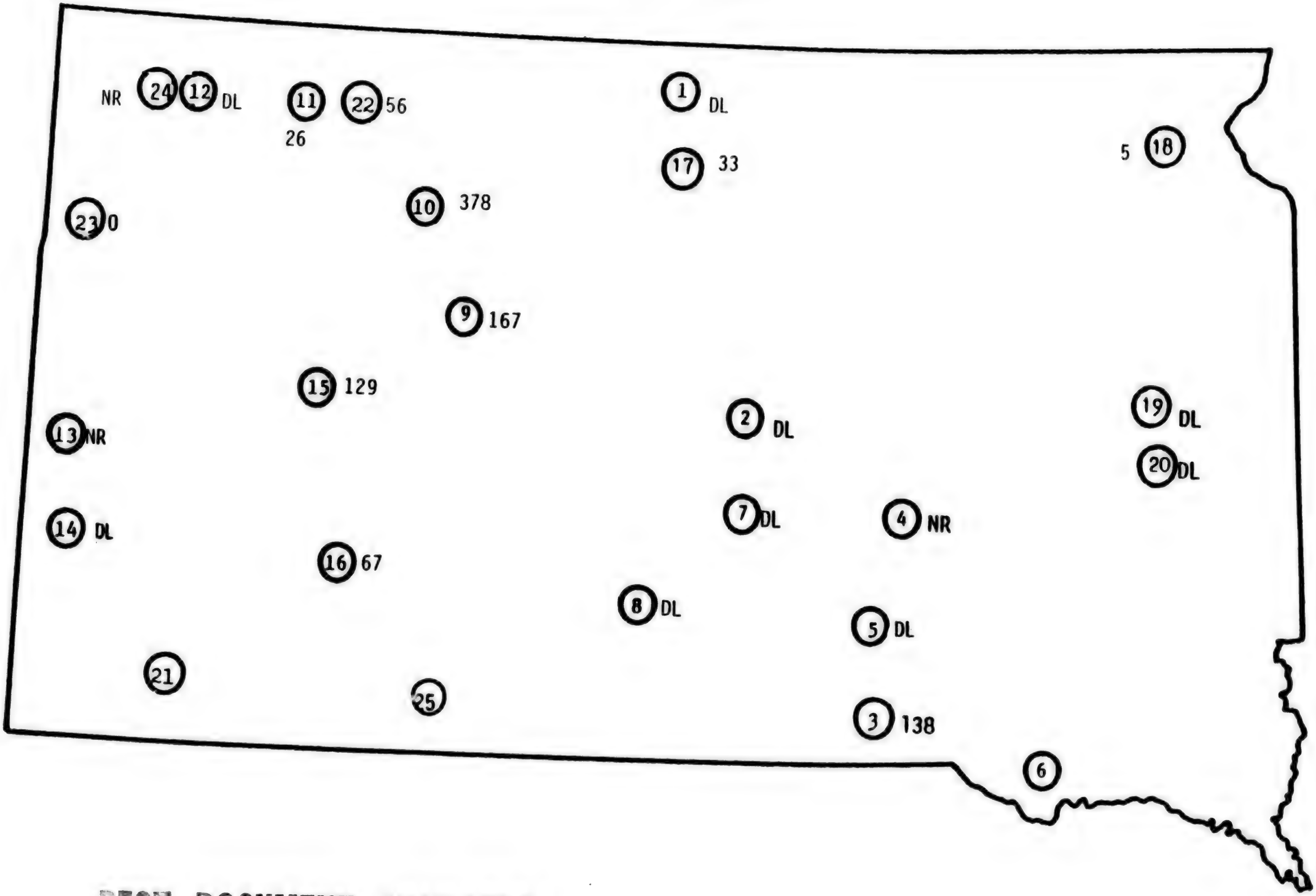
BEAR ------  0 - 0   15 - 3   0 - 0   0 - 0   0 - 0

DOG -------  0 - 0    0 - 0   5 - 1   0 - 0   0 - 0

CAT -------  5 - 1    0 - 0   0 - 0   0 - 0   0 - 0

MT. LION --  0 - 0    0 - 0   0 - 0   0 - 0   0 - 0
```

SOUTH DAKOTA



BEST DOCUMENT AVAILABLE

PREDATOR SURVEY LINE INDICES - 1981

STATE - SOUTH DAKOTA

LINE NO. -	1	2	3	4	5	6	7	8	9	10	AVERAGE STATE INDICES
SS-NIGHTS -	(0)	(0)	(144)	(0)	(0)	(0)	(0)	(0)	(150)	(180)	1909
COYOTE ----	0	0	313	0	0	0	0	0	167	378	151,9
	- 0-	- 0-	-45-	- 0-	- 0-	- 0-	- 0-	- 0-	-25-	-68-	
KIT FOX ---	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0,0
RED FOX ---	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	22 - 4	17,8
GRAY FOX --	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0,0
UNIDENTIFIE	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	6 - 1	20,4
BOBCAT ----	0 - 0	0 - 0	7 - 1	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0,5
BADGER ----	0 - 0	0 - 0	42 - 6	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	7 - 1	0 - 0	11,0
RACCOON ---	0 - 0	0 - 0	7 - 1	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	60 - 9	67 -12	27,8
SKUNK -----	0 - 0	0 - 0	56 - 8	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	133 -24	38,2
OTHER CARNIVORES											
DOG -------	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	7 - 1	0 - 0	2,6
CAT -------	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	1,6
WEASEL ----	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	1,0
MINK ------	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0,5

PREDATOR SURVEY LINE INDICES - 1981

STATE - SOUTH DAKOTA

LINE NO. -	11	12	13	14	15	16	17	18	19	20
SS-NIGHTS -	(189)	(0)	(0)	(0)	(194)	(150)	(184)	(198)	(0)	(0)
COYOTE ----	26 - 5	0 - 0	0 - 0	0 - 0	129 - 25	67 - 10	33 - 6	5 - 1	0 - 0	0 - 0
KIT FOX ---	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0
RED FOX ---	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	5 - 1	0 - 0	0 - 0	0 - 0
GRAY FOX --	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0
UNIDENTIFIE	21 - 4	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	43 - 8	121 - 24	0 - 0	0 - 0
BOBCAT ----	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0
BADGER ----	5 - 1	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	33 - 6	35 - 7	0 - 0	0 - 0
RACCOON ---	21 - 4	0 - 0	0 - 0	0 - 0	15 - 3	0 - 0	22 - 4	10 - 2	0 - 0	0 - 0
SKUNK -----	32 - 6	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	33 - 6	111 - 22	0 - 0	0 - 0
OTHER CARNIVORES										
DOG -------	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	5 - 1	15 - 3	0 - 0	0 - 0
CAT -------	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	15 - 3	0 - 0	0 - 0
WEASEL ----	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	11 - 2	0 - 0	0 - 0	0 - 0
MINK ------	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	5 - 1	0 - 0	0 - 0

```
                                   PREDATOR SURVEY LINE INDICES - 1981

                                          STATE - SOUTH DAKOTA

LINE NO. -    21       22       23       24       25
             -----    -----    -----    -----    -----    -----    -----    -----    -----    -----
SS-NIGHTS - (  0)    (126)    (196)    (  0)    (198)    (

COYOTE ----    0        56       0        0       495
             - 0-     - 7-     - 0-     - 0-     -98-     -

KIT FOX ---  0 - 0    0 - 0    0 - 0    0 - 0    0 - 0

RED FOX ---  0 - 0    0 - 0 148 -29     0 - 0    0 - 0

GRAY FOX --  0 - 0    0 - 0    0 - 0    0 - 0    0 - 0

UNIDENTIFIE  0 - 0   16 - 2    0 - 0    0 - 0    0 - 0

BOBCAT ----  0 - 0    0 - 0    0 - 0    0 - 0    0 - 0

BADGER ----  0 - 0    0 - 0    0 - 0    0 - 0    0 - 0

RACCOON ---  0 - 0    8 - 1    0 - 0    0 - 0   86 -17

SKUNK -----  0 - 0    8 - 1   15 - 3    0 - 0   15 - 3

OTHER CARNIVORES

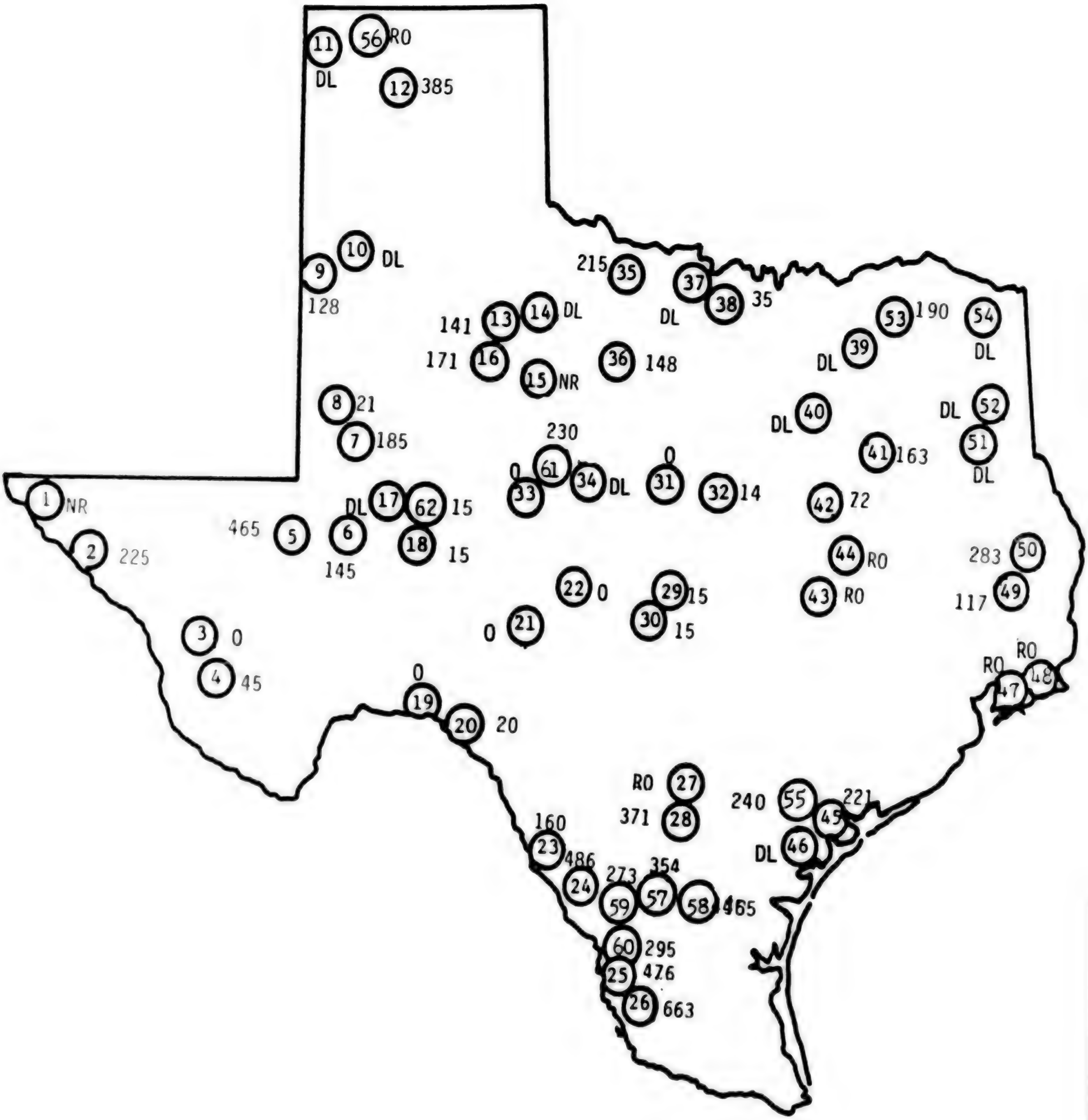
DOG -------  0 - 0    0 - 0    0 - 0    0 - 0    0 - 0

CAT -------  0 - 0    0 - 0    0 - 0    0 - 0    0 - 0

WEASEL ----  0 - 0    0 - 0    0 - 0    0 - 0    0 - 0

MINK ------  0 - 0    0 - 0    0 - 0    0 - 0    0 - 0
```

TEXAS



11 DL
56 RO
12 385
10 DL
9 128
215 35
37 DL
38 35
141 13
14 DL
171 16
15 NR
36 148
53 190
54 DL
39 DL
8 21
7 185
40 DL
52 DL
230 61
41 163
51 DL
1 NR
2 225
465 5
6 145
DL 17
62 15
18 15
0 33
34 DL
0 31
32 14
42 72
44 RO
283 50
22 0
29 15
30 15
43 RO
117 49
0 21
3 0
4 45
RO 47
RO 48
0 19
20 20
RO 27
371 28
240 55
45 221
DL 46
160 23
24 486
59 273
57 354
58 465
60 295
25 476
26 663

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BEST DOCUMENT AVAILABLE

PREDATOR SURVEY LINE INDICES - 1981

STATE - TEXAS

LINE NO. -	1	2	3	4	5	6	7	8	9	10	AVERAGE STATE INDICES
SS-NIGHTS -	(0)	(200)	(200)	(199)	(157)	(186)	(200)	(195)	(188)	(0)	8127
COYOTE ----	0 - 0-	225 - 45-	0 - 0-	45 - 9-	465 - 73-	145 - 27-	185 - 37-	21 - 4-	128 - 24-	0 - 0-	173,4
KIT FOX ---	0 - 0	60 -12	15 - 3	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	1,8
RED FOX ---	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0,9
GRAY FOX --	0 - 0	0 - 0	5 - 1	30 - 6	45 - 7	11 - 2	15 - 3	0 - 0	0 - 0	0 - 0	10,5
UNIDENTIFIE	0 - 0	0 - 0	0 - 0	0 - 0	6 - 1	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	10,3
BOBCAT ----	0 - 0	5 - 1	0 - 0	0 - 0	0 - 0	0 - 0	5 - 1	0 - 0	0 - 0	0 - 0	4,7
BADGER ----	0 - 0	40 - 8	0 - 0	20 - 4	19 - 3	0 - 0	0 - 0	21 - 4	0 - 0	0 - 0	3,4
RACCOON ---	0 - 0	0 - 0	10 - 2	50 -10	0 - 0	11 - 2	0 - 0	0 - 0	0 - 0	0 - 0	23,6
SKUNK -----	0 - 0	0 - 0	10 - 2	50 -10	96 -15	48 - 9	15 - 3	0 - 0	0 - 0	0 - 0	26,5
OTHER CARNIVORES											
OPPOSSUM --	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	3,2
DOG -------	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	10 - 2	0 - 0	0 - 0	5,0
CAT -------	0 - 0	0 - 0	5 - 1	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0,7
RINGTAIL --	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	5,8
JAVELINA --	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	1,2
MT. LION --	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0,1
ARMADILLO -	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	2,7

PREDATOR SURVEY LINE INDICES - 1981

STATE - TEXAS

LINE NO. -	11	12	13	14	15	16	17	18	19	20
SS-NIGHTS -	(0)	(195)	(198)	(0)	(0)	(193)	(0)	(200)	(170)	(147)
COYOTE ----	0 - 0-	385 -75-	141 -28-	0 - 0-	0 - 0-	171 -33-	0 - 0-	15 - 3-	0 - 0-	20 - 3
KIT FOX ---	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0
RED FOX ---	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	5 - 1	0 - 0	0 - 0
GRAY FOX --	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	25 - 5	29 - 5	34 - 5
UNIDENTIFIE	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	224 -38	306 -45
BOBCAT ----	0 - 0	0 - 0	5 - 1	0 - 0	0 - 0	0 - 0	0 - 0	10 - 2	18 - 3	0 - 0
BADGER ----	0 - 0	15 - 3	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	5 - 1	0 - 0	0 - 0
RACCOON ---	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	16 - 3	0 - 0	10 - 2	53 - 9	41 - 6
SKUNK -----	0 - 0	62 -12	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	30 - 6	6 - 1	27 - 4
OTHER CARNIVORES										
OPPOSSUM --	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0
DOG -------	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	12 - 2	0 - 0
CAT -------	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0
RINGTAIL --	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	45 - 9	135 -23	102 -15
JAVELINA --	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0
MT. LION --	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0
ARMADILLO -	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0

BEST DOCUMENT AVAILABLE

PREDATOR SURVEY LINE INDICES - 1981

STATE - TEXAS

LINE NO. -	21	22	23	24	25	26	27	28	29	30
SS-NIGHTS -	(189)	(200)	(175)	(183)	(166)	(187)	(0)	(194)	(200)	(200)
COYOTE ----	0 - 0-	0 - 0-	160 -28-	486 -69-	476 -79-	663 -***-	0 - 0-	371 -72-	15 - 3-	15 - 3-
KIT FOX ---	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0
RED FOX ---	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	15 - 3	5 - 1
GRAY FOX --	26 - 5	70 -14	11 - 2	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	50 -10	25 - 5
UNIDENTIFIE	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0
BOBCAT ----	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	43 - 8	0 - 0	0 - 0	0 - 0	0 - 0
BADGER ----	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	5 - 1	0 - 0	0 - 0	0 - 0	0 - 0
RACCOON ---	69 -13	50 -10	40 - 7	27 - 5	30 - 5	86 -16	0 - 0	15 - 3	80 -16	65 -13
SKUNK -----	32 - 6	5 - 1	0 - 0	0 - 0	108 -18	123 -23	0 - 0	5 - 1	0 - 0	5 - 1
OTHER CARNIVORES										
OPPOSSUM --	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	16 - 3	0 - 0	0 - 0	0 - 0	0 - 0
DOG -------	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	10 - 2	20 - 4	0 - 0
CAT -------	0 - 0	0 - 0	0 - 0	0 - 0	6 - 1	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0
RINGTAIL --	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0
JAVELINA --	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	5 - 1	0 - 0	0 - 0
MT. LION --	0 - 0	0 - 0	0 - 0	0 - 0	6 - 1	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0
ARMADILLO -	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	5 - 1	20 - 4	10 - 2

```
                              PREDATOR SURVEY LINE INDICES - 1981

                                        STATE - TEXAS

LINE NO. -    31       32       33       34       35       36       37       38       39       40
             -----    -----    -----    -----    -----    -----    -----    -----    -----    -----
SS-NIGHTS - (187)    (143)    (200)    (  0)    (200)    (196)    (  0)    (198)    (  0)    (  0)

COYOTE ----    0        14        0        0      215      148        0       35        0        0
             - 0-     - 2-     - 0-     - 0-     -43-     -29-     - 0-     - 7-     - 0-     - 0-

KIT FOX ---  0 - 0    0 - 0    0 - 0    0 - 0    0 - 0    0 - 0    0 - 0    0 - 0    0 - 0    0 - 0

RED FOX ---  0 - 0   14 - 2    0 - 0    0 - 0    0 - 0    0 - 0    0 - 0    0 - 0    0 - 0    0 - 0

GRAY FOX -- 16 - 3    0 - 0   25 - 5    0 - 0    0 - 0    0 - 0    0 - 0    0 - 0    0 - 0    0 - 0

UNIDENTIFIE  0 - 0    0 - 0    0 - 0    0 - 0    0 - 0    0 - 0    0 - 0    0 - 0    0 - 0    0 - 0

BOBCAT ---- 11 - 2    0 - 0    0 - 0    0 - 0   10 - 2    5 - 1    0 - 0    0 - 0    0 - 0    0 - 0

BADGER ----  0 - 0    0 - 0    0 - 0    0 - 0    0 - 0    0 - 0    0 - 0    0 - 0    0 - 0    0 - 0

RACCOON --- 21 - 4    0 - 0   25 - 5    0 - 0    0 - 0    0 - 0    0 - 0    0 - 0    0 - 0    0 - 0

SKUNK ----- 53 -10    0 - 0   30 - 6    0 - 0   15 - 3    5 - 1    0 - 0   81 -16    0 - 0    0 - 0

OTHER CARNIVORES

OPPOSSUM -- 16 - 3    0 - 0    5 - 1    0 - 0    0 - 0    0 - 0    0 - 0   10 - 2    0 - 0    0 - 0

DOG ------- 21 - 4   70 -10   10 - 2    0 - 0    0 - 0    0 - 0    0 - 0   20 - 4    0 - 0    0 - 0

CAT -------  5 - 1   14 - 2    0 - 0    0 - 0    0 - 0    0 - 0    0 - 0    0 - 0    0 - 0    0 - 0

RINGTAIL --  0 - 0    0 - 0    0 - 0    0 - 0    0 - 0    0 - 0    0 - 0    0 - 0    0 - 0    0 - 0

JAVELINA --  0 - 0    0 - 0    0 - 0    0 - 0    0 - 0    0 - 0    0 - 0    0 - 0    0 - 0    0 - 0

MT, LION --  0 - 0    0 - 0    0 - 0    0 - 0    0 - 0    0 - 0    0 - 0    0 - 0    0 - 0    0 - 0

ARMADILLO -  0 - 0    7 - 1    5 - 1    0 - 0    0 - 0    0 - 0    0 - 0   20 - 4    0 - 0    0 - 0
```

PREDATOR SURVEY LINE INDICES - 1981

STATE - TEXAS

LINE NO. -	41	42	43	44	45	46	47	48	49	50
SS-NIGHTS -	(190)	(195)	(0)	(0)	(181)	(0)	(0)	(0)	(171)	(198)
COYOTE ----	163 -31-	72 -14-	0 - 0-	0 - 0-	221 -40-	0 - 0-	0 - 0-	0 - 0-	117 -20-	283 -56-
KIT FOX ---	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0
RED FOX ---	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0
GRAY FOX --	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	25 - 5
UNIDENTIFIE	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0
BOBCAT ----	5 - 1	0 - 0	0 - 0	0 - 0	39 - 7	0 - 0	0 - 0	0 - 0	18 - 3	30 - 6
BADGER ----	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0
RACCOON ---	53 -10	21 - 4	0 - 0	0 - 0	66 -12	0 - 0	0 - 0	0 - 0	6 - 1	0 - 0
SKUNK -----	89 -17	10 - 2	0 - 0	0 - 0	17 - 3	0 - 0	0 - 0	0 - 0	6 - 1	0 - 0
OTHER CARNIVORES										
OPPOSSUM --	37 - 7	0 - 0	0 - 0	0 - 0	22 - 4	0 - 0	0 - 0	0 - 0	12 - 2	0 - 0
DOG -------	21 - 4	10 - 2	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	6 - 1	20 - 4
CAT -------	0 - 0	5 - 1	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0
RINGTAIL --	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0
JAVELINA --	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0
MT. LION --	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0
ARMADILLO -	11 - 2	5 - 1	0 - 0	0 - 0	28 - 5	0 - 0	0 - 0	0 - 0	6 - 1	0 - 0

PREDATOR SURVEY LINE INDICES - 1981

STATE - TEXAS

LINE NO. -	51	52	53	54	55	56	57	58	59	60
SS-NIGHTS -	(0)	(0)	(184)	(0)	(200)	(0)	(189)	(187)	(194)	(193)
COYOTE ----	0 - 0-	0 - 0-	190 -35-	0 - 0-	240 -48-	0 - 0-	354 -67-	465 -87-	273 -53-	295 -57-
KIT FOX ---	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0
RED FOX ---	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0
GRAY FOX --	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0
UNIDENTIFIE	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0
BOBCAT ----	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0
BADGER ----	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	5 - 1	5 - 1
RACCOON ---	0 - 0	0 - 0	38 - 7	0 - 0	0 - 0	0 - 0	21 - 4	11 - 2	5 - 1	31 - 6
SKUNK -----	0 - 0	0 - 0	0 - 0	0 - 0	30 - 6	0 - 0	5 - 1	5 - 1	10 - 2	10 - 2
OTHER CARNIVORES										
OPPOSSUM --	0 - 0	0 - 0	5 - 1	0 - 0	0 - 0	0 - 0	16 - 3	0 - 0	0 - 0	0 - 0
DOG -------	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0
CAT -------	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0
RINGTAIL --	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0
JAVELINA --	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	5 - 1	0 - 0	15 - 3	26 - 5
MT. LION --	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0
ARMADILLO -	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0

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                         PREDATOR SURVEY LINE INDICES - 1981

                                  STATE - TEXAS

LINE NO. -    61       62       63
           -----    -----    -----    -----    -----    -----    -----    -----    -----    -----
SS-NIGHTS - (200)   (199)   (200)    (

COYOTE ----   230      15       60
                 -46-    - 3-     -12-      -

KIT FOX ---   0 - 0   0 - 0   0 - 0

RED FOX ---   0 - 0   0 - 0   0 - 0

GRAY FOX -- 10 - 2    0 - 0   0 - 0

UNIDENTIFIE   0 - 0   0 - 0   0 - 0

BOBCAT ----   0 - 0   0 - 0   0 - 0

BADGER ----   0 - 0   0 - 0  10 - 2

RACCOON --- 25 - 5    0 - 0  45 - 9

SKUNK ----- 35 - 7  60 -12  65 -13

OTHER CARNIVORES

OPPOSSUM --   0 - 0   0 - 0   0 - 0

DOG -------   0 - 0   0 - 0   0 - 0

CAT -------   0 - 0   0 - 0   0 - 0

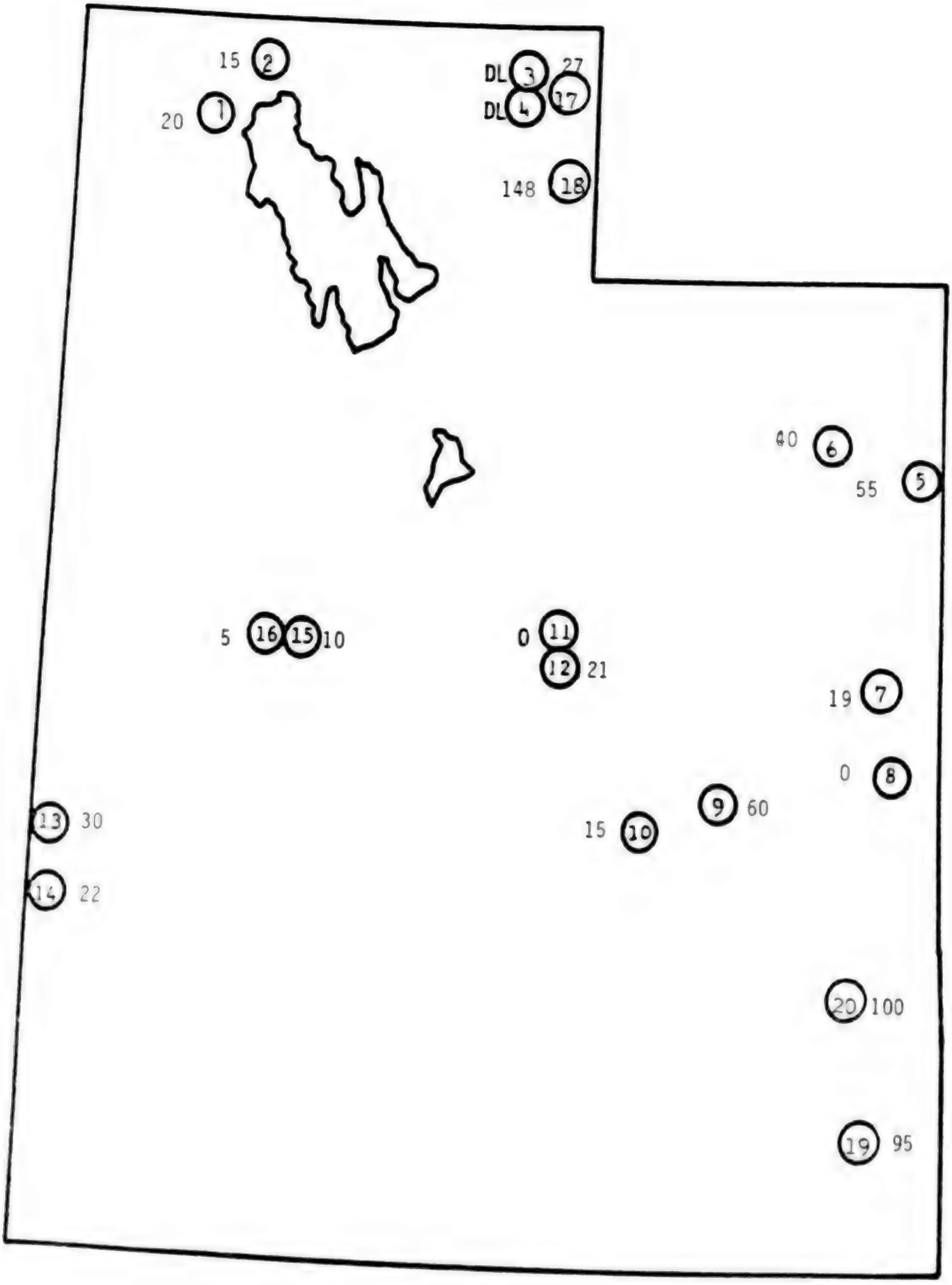
RINGTAIL --   0 - 0   0 - 0   0 - 0

JAVELINA --   0 - 0   0 - 0   0 - 0

MT. LION --   0 - 0   0 - 0   0 - 0

ARMADILLO -   0 - 0   0 - 0   0 - 0
```

UTAH


15 ②
20 ①
DL ③ 27
DL ④ ⑰
148 ⑱
40 ⑥
55 ⑤
5 ⑯ ⑮ 10
0 ⑪
⑫ 21
19 ⑦
0 ⑧
⑬ 30
⑨ 60
15 ⑩
⑭ 22
⑳ 100
⑲ 95

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PREDATOR SURVEY LINE INDICES - 1981

STATE - UTAH

LINE NO. -	1	2	3	4	5	6	7	8	9	10	AVERAGE STATE INDICES
SS-NIGHTS -	(198)	(200)	(0)	(0)	(200)	(200)	(108)	(148)	(199)	(195)	3395
COYOTE ----	20 - 4-	15 - 3-	0 - 0-	0 - 0-	55 -11-	40 - 8-	19 - 2-	0 - 0-	60 -12-	15 - 3-	38,6
KIT FOX ---	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	35 - 7	10 - 2	2.7
RED FOX ---	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0,3
GRAY FOX --	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0,0
UNIDENTIFIE	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	5 - 1	10 - 2	33,0
BOBCAT ----	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0,9
BADGER ----	15 - 3	15 - 3	0 - 0	0 - 0	0 - 0	5 - 1	0 - 0	0 - 0	0 - 0	0 - 0	9,7
RACCOON ---	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0,0
SKUNK -----	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	15 - 3	0 - 0	0 - 0	0 - 0	0 - 0	0,9
OTHER CARNIVORES											
DOG -------	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0,3

PREDATOR SURVEY LINE INDICES - 1981

STATE - UTAH

LINE NO. -	11	12	13	14	15	16	17	18	19	20
SS-NIGHTS -	(199)	(195)	(200)	(185)	(200)	(200)	(187)	(182)	(199)	(200)
COYOTE ----	0 - 0-	21 - 4-	30 - 6-	22 - 4-	10 - 2-	5 - 1-	27 - 5-	148 -27-	95 -19-	100 -20-
KIT FOX ---	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0
RED FOX ---	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	5 - 1	0 - 0	0 - 0
GRAY FOX --	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0
UNIDENTIFIE	0 - 0	0 - 0	135 -27	11 - 2	165 -33	235 -47	0 - 0	0 - 0	0 - 0	0 - 0
BOBCAT ----	5 - 1	5 - 1	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	5 - 1	0 - 0	0 - 0
BADGER ----	10 - 2	5 - 1	0 - 0	0 - 0	5 - 1	0 - 0	59 -11	60 -11	0 - 0	0 - 0
RACCOON ---	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0
SKUNK -----	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0
OTHER CARNIVORES										
DOG -------	5 - 1	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0

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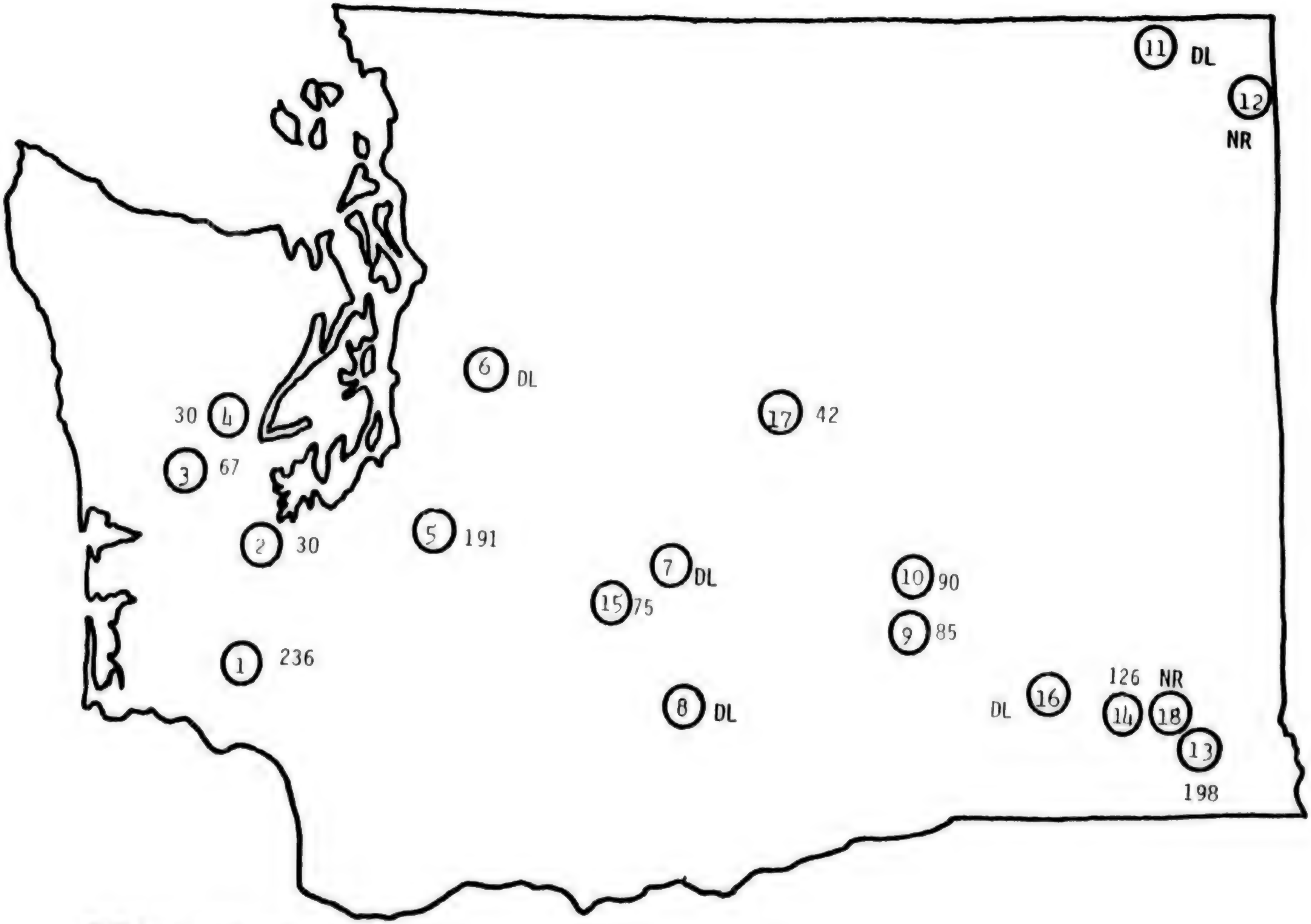
WASHINGTON



11 DL
12 NR
6 DL
30 4
17 42
3 67
2 30
5 191
7 DL
15 75
10 90
9 85
1 236
126 NR
DL 16
14
18
8 DL
13
198

PREDATOR SURVEY LINE INDICES - 1981

STATE - WASHINGTON

LINE NO. -	1	2	3	4	5	6	7	8	9	10	AVERAGE STATE INDICES
SS-NIGHTS -	(199)	(200)	(193)	(200)	(183)	(0)	(0)	(0)	(200)	(199)	2281
COYOTE ----	236 -47-	30 - 6-	67 -13-	30 - 6-	191 -35-	0 - 0-	0 - 0-	0 - 0-	85 -17-	90 -18-	114,9
KIT FOX ---	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0,0
RED FOX ---	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0,0
GRAY FOX --	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0,0
UNIDENTIFIE	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0,0
BOBCAT ----	0 - 0	5 - 1	0 - 0	5 - 1	5 - 1	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	1,3
BADGER ----	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0,0
RACCOON ---	0 - 0	0 - 0	10 - 2	0 - 0	22 - 4	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	3,5
SKUNK -----	0 - 0	15 - 3	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	5 - 1	3,1
OTHER CARNIVORES											
DOG -------	5 - 1	15 - 3	5 - 1	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	3,9
WEASEL ----	0 - 0	0 - 0	0 - 0	0 - 0	16 - 3	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	1,3

```
                              PREDATOR SURVEY LINE INDICES - 1981

                                     STATE - WASHINGTON

LINE NO. -    11       12       13       14       15       16       17       18       19
            -----    -----    -----    -----    -----    -----    -----    -----    -----    -----
SS-NIGHTS - (  0)    (  0)    (121)    (199)    (199)    (  0)    (191)    (  0)    (197)    (

COYOTE ----    0        0       198      126       75       0        42        0       244
              - 0-     - 0-     -24-     -25-     -15-     - 0-     - 8-     - 0-     -48-      -

KIT FOX ---  0 - 0    0 - 0    0 - 0    0 - 0    0 - 0    0 - 0    0 - 0    0 - 0    0 - 0

RED FOX ---  0 - 0    0 - 0    0 - 0    0 - 0    0 - 0    0 - 0    0 - 0    0 - 0    0 - 0

GRAY FOX --  0 - 0    0 - 0    0 - 0    0 - 0    0 - 0    0 - 0    0 - 0    0 - 0    0 - 0

UNIDENTIFIE  0 - 0    0 - 0    0 - 0    0 - 0    0 - 0    0 - 0    0 - 0    0 - 0    0 - 0

BOBCAT ----  0 - 0    0 - 0    0 - 0    0 - 0    0 - 0    0 - 0    0 - 0    0 - 0    0 - 0

BADGER ----  0 - 0    0 - 0    0 - 0    0 - 0    0 - 0    0 - 0    0 - 0    0 - 0    0 - 0

RACCOON ---  0 - 0    0 - 0    0 - 0    0 - 0    0 - 0    0 - 0    0 - 0    0 - 0   10 - 2

SKUNK -----  0 - 0    0 - 0   17 - 2    0 - 0    5 - 1    0 - 0    0 - 0    0 - 0    0 - 0

OTHER CARNIVORES

DOG -------  0 - 0    0 - 0    0 - 0    0 - 0   20 - 4    0 - 0    0 - 0    0 - 0    0 - 0

WEASEL ----  0 - 0    0 - 0    0 - 0    0 - 0    0 - 0    0 - 0    0 - 0    0 - 0    0 - 0
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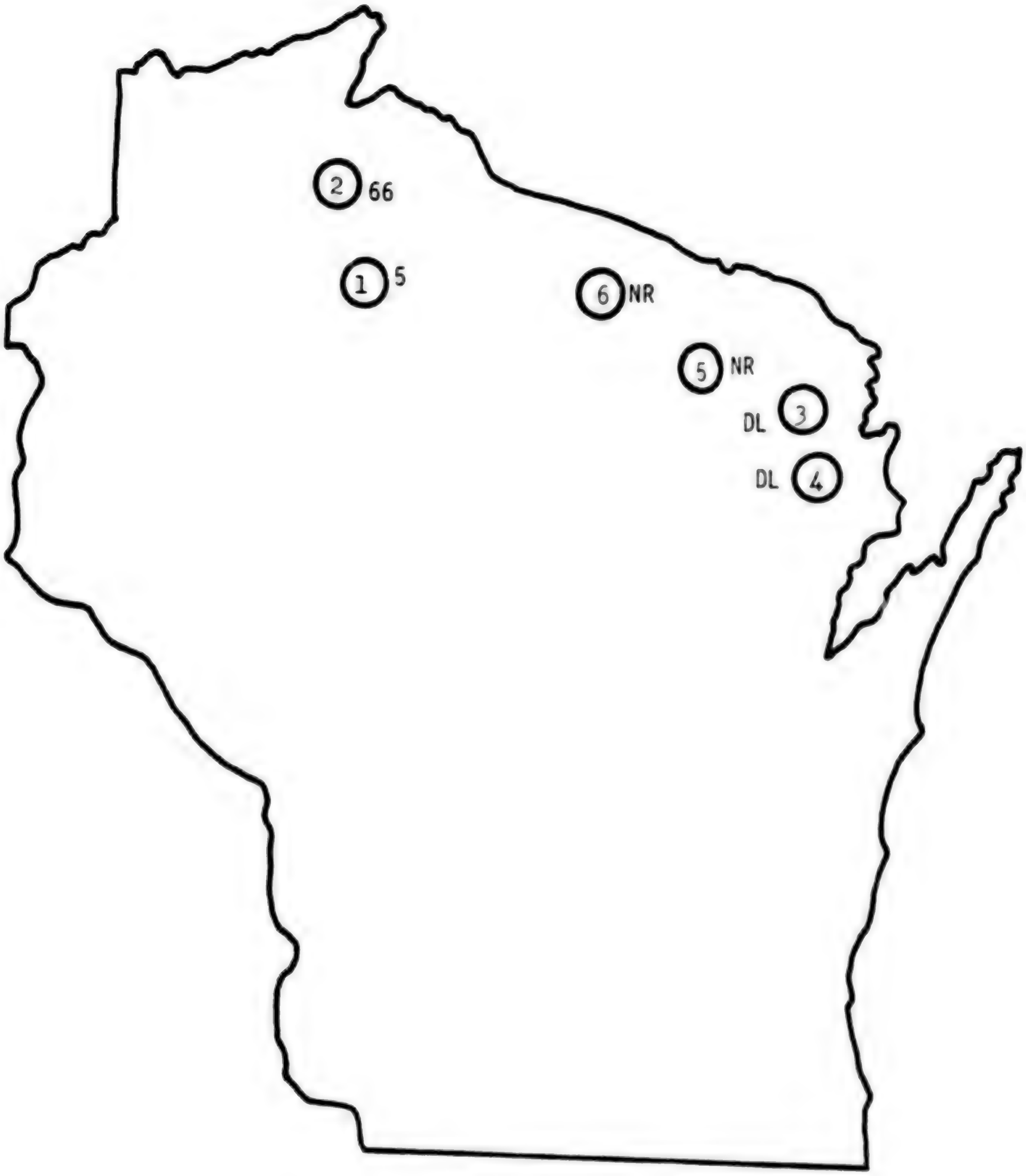
WISCONSIN



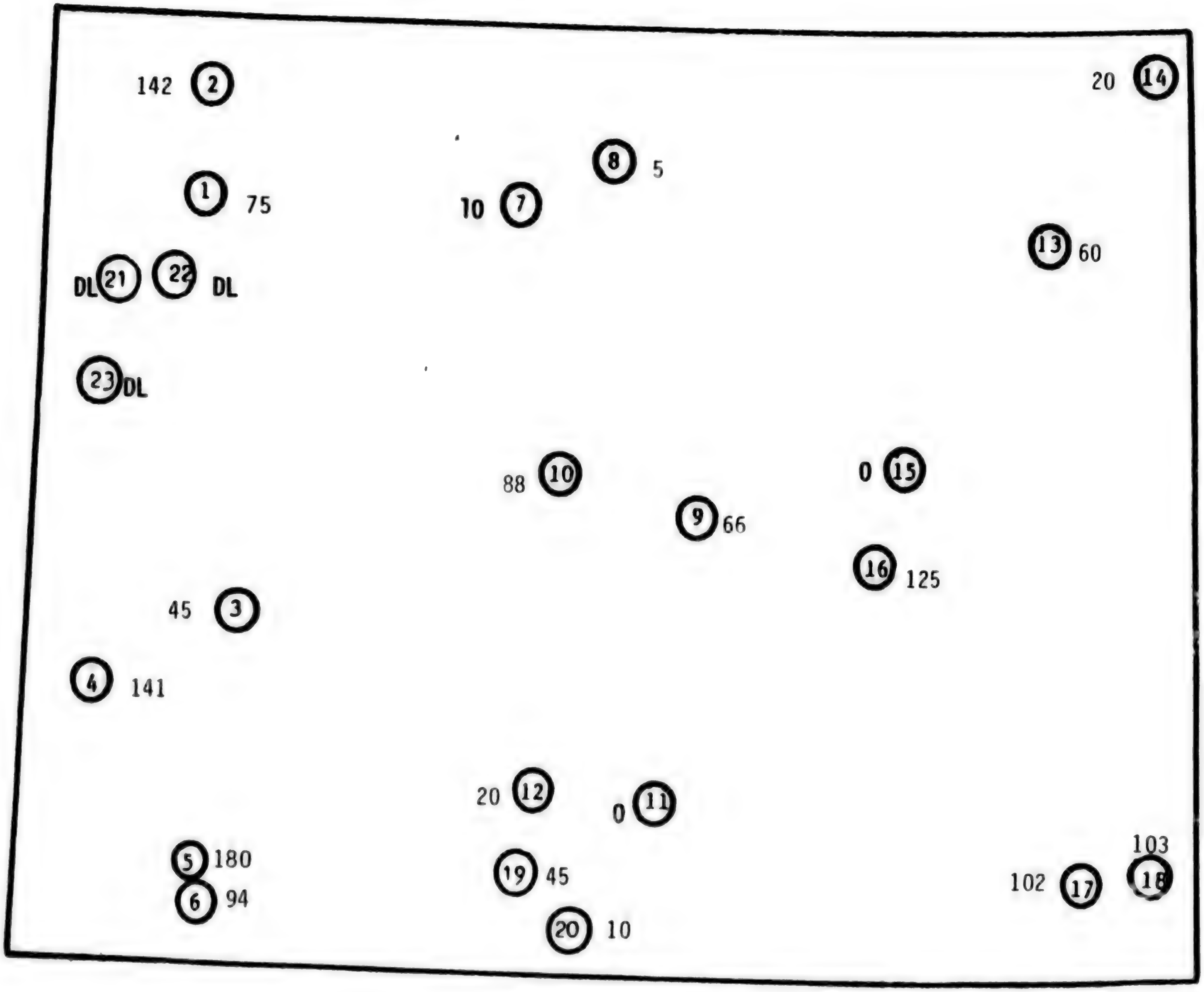
BEST DOCUMENT AVAILABLE

PREDATOR SURVEY LINE INDICES - 1981

STATE - WISCONSIN

LINE NO. -	1	2	3	4	5	6	7	8	9	10	AVERAGE STATE INDICES
SS-NIGHTS -	(186)	(198)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	384
COYOTE ----	5 - 1-	66 -13-	0 - 0-	0 - 0-	0 - 0-	0 - 0-	0 - 0-	0 - 0-	0 - 0-	0 - 0-	36,5
KIT FOX ---	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0,0
RED FOX ---	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0,0
GRAY FOX --	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0,0
UNIDENTIFIE	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0,0
BOBCAT ----	11 - 2	5 - 1	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	7,8
BADGER ----	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0,0
RACCOON ---	0 - 0	10 - 2	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	5,2
SKUNK -----	102 -19	35 - 7	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	67,7
OTHER CARNIVORES											
BEAR ------	124 -23	76 -15	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	99,0
DOG -------	11 - 2	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	5,2
MINK ------	0 - 0	5 - 1	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	2,6

WYOMING



142 ②
20 ⑭
⑧ 5
① 75
10 ⑦
⑬ 60
DL ㉑
㉒ DL
㉓ DL
0 ⑮
88 ⑩
⑨ 66
⑯ 125
45 ③
④ 141
20 ⑫
0 ⑪
103
⑤ 180
⑲ 45
102 ⑰
⑱
⑥ 94
⑳ 10

PREDATOR SURVEY LINE INDICES - 1981

STATE - WYOMING

LINE NO. -	1	2	3	4	5	6	7	8	9	10	AVERAGE STATE INDICES
SS-NIGHTS -	(200)	(197)	(200)	(198)	(200)	(192)	(200)	(200)	(197)	(194)	3894
COYOTE ----	75 -15-	142 -28-	45 - 9-	141 -28-	180 -36-	94 -18-	10 - 2-	5 - 1-	66 -13-	88 -17-	66,5
KIT FOX ---	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	7,4
RED FOX ---	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	25 - 5	15 - 3	0 - 0	0 - 0	17,2
GRAY FOX --	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0,0
UNIDENTIFIE	55 -11	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	2,8
BOBCAT ----	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	5 - 1	0 - 0	5 - 1	0 - 0	0,5
BADGER ----	0 - 0	0 - 0	55 -11	0 - 0	45 - 9	94 -18	0 - 0	5 - 1	0 - 0	0 - 0	13,4
RACCOON ---	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	2,3
SKUNK -----	0 - 0	0 - 0	15 - 3	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	5 - 1	0 - 0	2,1

OTHER CARNIVORES

PREDATOR SURVEY LINE INDICES - 1981

STATE - WYOMING

LINE NO. -	11	12	13	14	15	16	17	18	19	20
SS-NIGHTS -	(180)	(197)	(182)	(200)	(200)	(200)	(186)	(174)	(199)	(198)
COYOTE ----	0 - 0-	20 - 4-	60 -11-	20 - 4-	0 - 0-	125 -25-	102 -19-	103 -18-	45 - 9-	10 - 2-
KIT FOX ---	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	91 -17	69 -12	0 - 0	0 - 0
RED FOX ---	6 - 1	0 - 0	0 - 0	0 - 0	155 -31	30 - 6	108 -20	6 - 1	0 - 0	0 - 0
GRAY FOX --	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0
UNIDENTIFIE	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0
BOBCAT ----	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0
BADGER ----	0 - 0	10 - 2	0 - 0	0 - 0	10 - 2	10 - 2	5 - 1	6 - 1	20 - 4	5 - 1
RACCOON ---	0 - 0	0 - 0	5 - 1	30 - 6	0 - 0	0 - 0	0 - 0	11 - 2	0 - 0	0 - 0
SKUNK -----	0 - 0	0 - 0	0 - 0	0 - 0	10 - 2	0 - 0	5 - 1	6 - 1	0 - 0	0 - 0
OTHER CARNIVORES										

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APPENDIX A

Field Procedure Instructions and Observation Forms

ANNUAL PREDATOR SURVEY

Field Procedure Highlights

1. Use names, not numbers, to identify the field forms for your line(s). If you are not sure of the name(s), check with your supervisor.

2. Record the name of the county in which each line is located (not your home county or work area). If a line enters a second or third county, even briefly, record these also, but put the name of the county where most of the line is located first.

3. When setting up your line(s), number all stations exactly as in past years, with number one at the original starting point and number 50 at the original end point.

4. The survey will be run for 4 days. Fill out a form for each of the 4 days, even if you cannot run the line all 4 days, and make a note on the form for days missed explaining what happened (rained out, blown out, lack of vehicle or personnel). If you don't do this, we cannot be sure whether a daily form has been lost or what.

5. If, for convenience, you run a line backward, starting with station no. 50 instead of no. 1, be sure to record the first observation in the space for no. 50, and so forth. Then be sure to write "run backward" at the bottom of the field form.

6. Please get out of your vehicle at each station and examine the station carefully. A significant number of errors have occurred because of observers checking stations from the vehicle.

7. Please read pages 6-7 of these instructions and note the new recording procedures. These procedures were simplified to reduce confusion in deciding how to record what you observe. The absence of a capsule does not mean a station is inoperable (regardless what took the capsule); a station is inoperable ONLY if you feel that tracks made in the past 24 hours cannot be read because of wind, rain, snow, livestock trampling, vehicle tracks over most of the station, etc.

8. If you record a station as inoperable, be sure to state the reason.

9. If you miss a day of observation for any reason (weather, road conditions, vehicle problems, etc.) after a scent station line has been set out, do not record visits the following day; rather

you should re-set the stations (by simply brushing or by adding new dust and bait as needed) and read the following day. Otherwise, we are counting some accumulated visits but losing 50 operable scent-station nights for each day missed and this yields a false index.

10. Do not return left-over bait or used capsules; get rid of them with your trash at home or bury them, but do not leave them in the field.

11. Do return all unused capsules, sticks, tape, and gummed labels.

WESTERN PREDATOR SURVEY

September 10 - 14, 1979

Instructions to Field Personnel

The annual predator survey is now in its eighth year and running smoothly. Results have been more readily analyzed in the past couple of years because of excellent cooperation from the observers in recording data correctly. Getting several hundred people to do anything the same way would be impossible without a genuine spirit of cooperation among the group. Your efforts are appreciated.

Although we have far to go in understanding and interpreting the survey results--and although there are differences of opinion about its validity for specific localities--it is clear that the results of the survey are meaningful on the large scale it was designed for. In addition, the results have played a major role in alleviating the public concern for the survival of the coyote in the West.

There are no changes in procedures for 1979, but first-time observers should read the following pages carefully. "Old-timers" in the survey may also find it useful to refresh their memories by a quick review.

1. Existing survey lines

If you are running the same survey lines you ran last year, locate them along the same routes and start the lines at the same spot as last year. If you are running two lines, try to set them both out on the same day, preferably September 10. We find this difficult but possible on our Idaho lines, even though we have to load dust on the way out, but it may not be possible if your lines are far from your home or from each other. If you cannot set out both lines in one day, then set your first line on September 10 (if possible), check it the morning of September 11, and then set your second line during the afternoon of the 11th. Then check both lines daily for 4 days. Weather permitting, you will finish checking either both or your first line on September 14, and the second line on Stepember 15 if you staggered the beginning. A few men are running only one survey line, in which case you should finish your 4-day check on the 14th.

If all or part of a line must be temporarily or permanently relocated due to road or bridge repairs or improvements, logging activity, new land owners, etc., be sure to send in a map showing the changes along with your observation forms. Except when the relocation is temporary and affects only a small portion of the line, the line should be renamed.

2. New survey lines

This portion of the instructions is only for men who are running NEW scent station lines, that is, lines that were not run last year (1978).

A scent station line consists of 50 scent stations, located 3/10 mile apart, placed out on a continuous route. Each scent station line is thus 14.7 miles long (0.3 miles x 49 intervals between stations = 14.7 miles). All scent stations must be checked each day for 4 successive days, including weekends.

a. The two lines should be located within the area (75 x 75 miles) blocked out on the map given to you by your supervisor. The two lines should be at least 20 miles apart.

b. Both lines should be placed in typical coyote habitat through areas which you feel contain average coyote densities. Do not select areas containing very low or very high coyote densities since the purpose of these surveys is to measure average levels of abundance. Once you have selected your two 15-mile routes, draw with a penciled line the exact location of the two routes on a county, topographic, or other detailed map. The 50 scent stations on each line should be numbered 1-50. Also place on your map the exact mileage from the nearest main road to the start of your two survey lines. After the survey is completed, return the map along with the completed forms to your state supervisor.

c. Select your routes on unpaved secondary or ranch roads along which coyotes would normally travel. Do not use roads on which you have traps.

d. Try to locate lines on lands that are not likely to change ownership since we will want to run them each September for several years. Mention to the landowner or administering agency that your effort is part of similar surveys to be conducted throughout the western states.

3. Scent stations

a. A scent station consists of a 3-foot circle of sifted earth or sand in the center of which is placed a capsule containing an attractant. Scent stations should be placed just off the edge of the road so that they will not be driven over by vehicles, but close enough to the road edge so you can read sign without leaving the road. Each scent station should be consecutively numbered (see page 4).

b. Use your vehicle odometer to check mileage so that all stations on each line are located 3/10 mile apart.

c. Stations should be alternated on either side of the road as you place out your lines. Station 1 will be on the left side, station 2 on the right, station 3 on the left, etc.

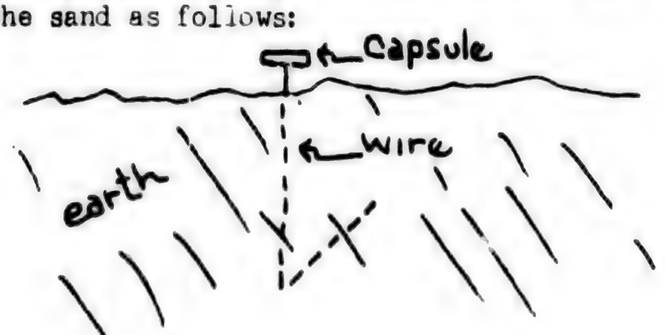
107

d. You may wish to make a larger sifter than normally used for setting traps since a 3-foot circle requires considerable sifting. A wooden frame approximately 16" x 24" with 1/8" hardware cloth (wire) works well. Where fine, dry dust is available, a piece of window screen cut to fit inside the frame of the sifter and supported by the hardware cloth will sift ideal powder-dust for reading tracks. Cover the station site with about 1/4" of the sifted earth. A whisk broom or foxtail brush is handy for smoothing over the station after reading tracks each day. A 3-foot circle made of garden hose or stiff wire will come in handy for making stations.

e. In some areas, it will be difficult or impossible to find suitable earth at all scent station sites. If necessary, it will be easier to load a quantity of earth in the back of your pickup and use this for preparation of the site. Best results are obtained with fine dust, about the consistency of flour. Be sure no grease or oil, etc., is present on the bed of your truck, or else place the required amount of earth in clean cardboard boxes. In some cases, you will find it necessary to use a shovel or hoe to "scalp" off or remove the grass, vegetation, etc., from some of the station sites.

f. After sifting over the required amount of earth, push the capsule containing the attractant on its supporting stick into the center of the circle so that the capsule is about 1/2" above ground level (see attached illustration). Where the ground is hard, a screwdriver or other pointed tool can be used to make a hole for the stick supporting the capsule.

g. Ravens may cause a problem in a few areas by removing and carrying off capsules. This problem may be handled in several ways depending upon local soil conditions. If soft soil or sand is present along your lines, you can drive a wooden stake into the middle of the scent post until level with the ground and then tack the capsule to the stake by means of a small nail. Last year several men solved the problem of capsules being pulled up in loose sand by pushing a bent length of bailing wire down through the top of the capsule, bending a "V" in the wire and inserting it into the sand as follows:



If the soil is rocky or hard, a large box nail or finishing nail can be driven through the top of the capsule directly into the ground after soil has been sifted over the site. Whether or not the above procedure will be necessary is left up to you.

4. Attractant and capsules

   a. The attractant you will use is the same as last year's. DON'T alter or change it in any way. It will not lose its drawing power for at least 6 days.

   b. Keep the attractant sealed in the jar and store in a cool, dry location until used. Do not prepare (fill) the capsules with the attractant more than 2 days prior to field use.

   c. Prepare the capsules for field use exactly like the sample capsule provided. Place one of the round gummed labels provided inside the bottom of each capsule to prevent leakage of the attractant. COMPLETELY FILL THE CAPSULES WITH ATTRACTANT. Do not pack the attractant, rather fill the capsule loosely. Place a piece of tape over the holes in the lid of the filled capsule to prevent leakage until it is placed in the field. Store capsules in a tight container and keep cool. Fill all capsules, place tape over lids, and NUMBER before starting to set out the line. This will reduce the chance of errors in numbering your stations. The attached illustration shows a good method of numbering and taping.

   d. When making a scent station, insert a sharpened support stick through one of the holes in the bottom of the capsule. REMOVE THE TAPE FROM THE TOP OF THE CAPSULE, NUMBER THE CAPSULE (if you haven't already done so) WITH A SOFT PENCIL (ink may fade), and place the capsule in the center of the 3-foot circle of sifted earth. Leave about 1/2" of space between the bottom of the capsule and the sifted earth. This will help to prevent clogging of the holes in the event of windy conditions.

   e. When running your scent post lines, REPLACE DAILY ANY CAPSULES THAT HAVE BEEN CARRIED OFF BY ANIMALS, DESTROYED, OR WHERE THE HOLES ARE CLOGGED WITH DIRT.

   f. Many of the men running lines in past years drove wooden stakes into the ground, or tied pieces of flagging on vegetation OPPOSITE their stations to make them easier to locate.

g. Smooth over daily all stations that have been tracked up. Generally, there is no need to smooth over stations tracked up by rodents, as coyotes or other predator tracks can be identified whether rodent tracks are present or not.

h. On the last day of the survey, pull up all capsules for disposal. DO NOT LEAVE CAPSULES IN THE FIELD AT THE END OF THE SURVEY. Do not return these or unused scent to Logan--either bury them or discard them with your household trash.

5. Wipe outs (bad weather)

We hope that all survey lines can be run for 4 consecutive days. However, bad weather will sometimes make this impossible. The lines must be run for at least 3 good days (visible tracks) in order for us to obtain useful information. If you run your line for 1 or 2 days and then one day of rain or wind makes it impossible to check the line, or wipes out all or most of the stations, try to re-set and continue to run the line until you get a total of at least 3 good days (preferably 4). However, if you have 2 or more days of bad weather during which it is impossible to identify tracks, it may be best to forget about any further attempts. In this case, however, complete a daily form for each day and write across the face of the report why you were unable to run the line that day. After a period of rain or wind it is usually necessary to re-set the line by sifting dust again and refilling the capsules (rain may cake the bait, high winds may blow it out of the capsules). Some predator tracks made during a period of rain or wind when you did not run the line may still be visible, but do not record these on the first day of checking following a day when you did not run the line because there is no way of knowing which night they were made and this causes a false index when the data are analyzed. Instead, count that day a loss, brush over tracks or resift dust if necessary, and replece capsules with new ones containing fresh bait if necessary.

6. Completing the data forms

a. Each box marked ② on the outside is a "double kit" and contains the items needed to run two census lines. Normally, one man will run two lines. However, in the event two men each run only one line, the items will have to be evenly divided (in some cases we have done this for you and marked the boxes ①).

b. Each double kit contains 10 blank forms (2 extras). Two completed sample forms are also enclosed as an example of how the blank forms should be filled out.

c. Complete the information required at the top of all sheets, including the scent-station line name. If you are not sure of the correct name, check with your supervisor. Do not use numbers as in previous years. Record the county in which your line is located (not the county in which you live or work), and if the line crosses a county line, give the names of both counties, with the county having the most stations written in first, regardless which county the line starts in.

d. Notice that an "area information sheet" is provided for each line. This should be filled out and returned each year, even if nothing has changed since you first filled out the sheet. The county space on this sheet is also for the line location, not for your county of residence or responsibility.

e. Notice that the blank forms are numbered from 1 to 50. Also, that after each number is the letter "L" or "R." The "L" indicates that the station is to be located on the left side of the road; the "R" means you should put the station on the right-hand side. These stations must be numbered starting at the same end of the line each year. If you are running a line run by others in the past, and do not know for sure which end of the line is which, don't guess--check with your supervisor or the man that ran the line last year. It is okay to run the line backward if this is more convenient (just don't number the stations backward), in which case you will be recording "50R" first and "1L" last. Also, if you run a line backward, be sure to make note of this by writing "run backward" at the bottom margin of the form each day this is done.

f. Complete the weather information at the top of each sheet. These are the predominant weather conditions DURING THE PREVIOUS NIGHT.

g. Be sure to indicate animal visits, if any, for all operable stations each day and record which stations were inoperable. If, for example, stations 23 to 34 were blown out or rained out on a given day, indicate this on the form with a "1" entered under station condition.

h. Whenever possible, indicate the species of animal that visited a station. For example, state "red fox," "grey fox," or "kit fox." Don't just state "fox" unless you cannot determine the species on the basis of tracks present. If you are sure that only one species of fox (or other group) occurs in your area, use the specific name. It is not desirable to record non-carnivore visits (birds, rodents, deer, etc.), although animals that are infrequent or otherwise of special interest should be recorded (eagle, javelina, armadillo, etc.).

i. Never record a coyote or other predator visit for a station regarded by you as inoperable ("1" in station condition column); normally, if you can identify a track, the station should be regarded as operable whether or not the capsule is present. This is because (1) predators may be attracted even with the capsule gone because of lingering scent or just the presence of a disturbed site, and (2) tracks present may have been made before the capsule was carried off or chewed up at the station. In some cases (such as after a rain or wind) you may barely be able to identify a predator track; in such cases, record the species and mark the station as operable. If a non-predator track or unidentifiable track is present at an otherwise washed out, blown out, run over, or trampled station, record the station as inoperable and don't record the track.

j. DON'T GUESS on track identification. If the track is not clear due to blowing sand, etc., indicate "unidentified animal," "coyote?" but do not record "1" for coyote visit. "1" is used only when you are reasonably certain of a coyote track.

k. Regardless of the number or size of the coyote tracks present at a station on any one day, record them as one (single) visit.

l. Record only tracks located inside the 3-foot circle. Coyotes sometimes come close without entering the circle, but for the sake of uniformity it is necessary to record only those that enter the circle.

m. We have found a significant difference between the numbers of visits recorded on left and right sides of the roads, and a big jump in visits on the last day of the survey. After much head-scratching we think this means the left-hand (driver's side) stations are sometimes being read from inside the vehicle on all but the last day and that predator visits are being overlooked because of this. Therefore, please, get out of your rig even for the left-side stations. It is a good idea to circle each station (even those that appear unvisited at first) because sometimes tracks not visible because of lighting angle on one side will show up clearly from another direction. The value of this survey is largely dependent on the amount of effort we put into it.

7. Return of materials, forms, etc.

   a. After the survey, discard or bury the used capsules and any remaining scent. Do not leave them in the field, do not return them to Pocatello, and please do not use the left-over scent for other purposes.

   b. Save the box your supplies came in and, immediately after the survey, tie up all UNUSED materials (except the scent) in the large plastic bag provided, place this in the box, and send the box to Pocatello, using the franked address label enclosed. In the event the kit is divided between two men in different locations, a second franked address label is enclosed but one man will have to find another box for returning unused materials.

   c. Send the completed forms and area information sheet to your state supervisor within a week after completion of the survey (franked envelope enclosed). Do not send the forms directly to Pocatello. Your state office will forward them after making copies for their files.

8. Questions

   If you have any questions, contact your supervisor.

9. Material in each kit

   Each kit contains sufficient supplies for two lines (exceptions are marked with ① on outside of box), as follows:

   a. Two 1-pint jars, each containing 125 grams of attractant.

   b. Two bags of capsules, each containing 125 capsules (50 for setting up each line, 75 extra as replacements for those carried off or destroyed).

   c. Two bundles of 125 support sticks for capsules.

   d. Two stapled packets of 135 gummed stickers for bottom of capsules.

   e. One completed sample capsules.

   f. Ten blank daily forms (2 extra), 4 for each line, for recording animal visits.

   g. One large plastic bags and two franked, gummed address labels for returning unused capsules, tape, stickers, and support sticks to Pocatello after completion of survey.

   h. One manila envelopes for sending completed forms to state supervisor.

   i. One roll of tape for sealing holes in capsule lids (see attached illustration) in preparation for setting lines.

State UTAH County CACHE Line Name EAGLE BUTTE Date SEPT 9, 1976

Weather conditions last night (circle one):
(1) Clear (3) Showers (5) Snow
[✓ (2) Cloudy] (no rain) (4) Rain

Observer I. C. PLENTY

Wind (circle one):
(1) No wind (3) Moderate
[✓ (2) Gusty] (4) Strong

Nighttime temperature (circle one):
Hot (80°F or above) [✓ Moderate] (33°F to 70°F) Freezing or below (32°F or lower)

SAMPLE

Scent station number	Station condition	Coyote visit	Other animals visiting station	Scent station number	Station condition	Coyote visit	Other animals visiting station
1 (L)	—	—	—	26 (R)	—	—	—
2 (R)	—	—	—	27 (L)	—	—	skunk, coon
3 (L)	—	/	—	28 (R)	—	—	coon unidentified
4 (R)	/	—	run over by grader	29 (L)	—	—	—
5 (L)	/	—	run over by grader	30 (R)	—	—	—
6 (R)	—	/	capsule carried off by coyote	31 (L)	—	—	—
7 (L)	—	—	—	32 (R)	—	—	—
8 (R)	—	—	—	33 (L)	—	—	cow chewed capsule
9 (L)	—	—	—	34 (R)	—	—	man took capsule
10 (R)	—	—	—	35 (L)	—	/	—
11 (L)	—	—	—	36 (R)	—	—	—
12 (R)	—	—	—	37 (L)	—	—	—
13 (L)	—	—	coon	38 (R)	—	—	—
14 (R)	—	/	coon	39 (L)	—	—	—
15 (L)	—	—	—	40 (R)	—	—	—
16 (R)	—	—	—	41 (L)	—	/	unidentified
17 (L)	—	—	—	42 (R)	—	/	skunk
18 (R)	—	—	—	43 (L)	—	—	—
19 (L)	—	—	—	44 (R)	—	—	—
20 (R)	—	—	—	45 (L)	—	—	—
21 (L)	—	/	—	46 (R)	—	—	—
22 (R)	—	—	—	47 (L)	/	—	blown out
23 (L)	—	/	—	48 (R)	/	—	blown out
24 (R)	/	—	cow trampled	49 (L)	/	—	blown out
25 (L)	—	—	—	50 (R)	/	—	blown out

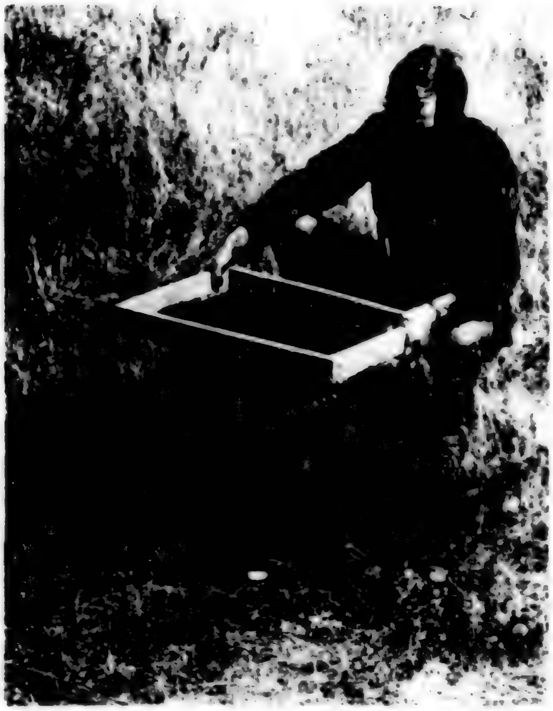
SAMPLE REPORT FORM

This sample form will help you in filling out your daily predator survey report forms. Study the examples on the other side before starting the survey.

The examples shown are explained below:

Scent Station Number	Explanation
1 and 2	The first two stations were in operating condition. No animals visited these two stations the previous night
3	Coyote tracks were found on this station
4 and 5	The station was destroyed (by grader); even if tracks had been present, the grader wiped them out
6	Capsule was carried off by a predator (a coyote)
7 to 12	No visits; stations in operating condition
13	Raccoon tracks found at station
14	Both coyote and raccoon tracks at station
15 to 20	No visits; station in operating condition
21	Coyote tracks found at station
22	No visits; station in operating condition
23	Coyote tracks found at station
24	A cow trampled the station to the extent that predator tracks, if present, could not be detected
25 and 26	No visits; station in operating condition
27	Both skunk and raccoon tracks at station
28	Raccoon and unidentified tracks at station
29 to 32	No visits, station in operating condition
33	Cow visited station and chewed capsule but did not trample station extensively; therefore station still in operating condition
34	Man took capsule, station still in operating condition (predator tracks, if present, would have been visible)
35	Coyote tracks found at station
36 to 40	No visits; station in operating condition
41	Coyote tracks and unidentified tracks found at station
42	Coyote and skunk tracks found at station
43 to 46	No visits; station in operating condition
47 to 50	These stations inoperative (blown out by wind)

Figure 1. Preparing a scent post station. In this example, a length of rubber hose was used to outline the station site. A 3-foot diameter circle of heavy wire is also helpful. The tendency is for trappers to make the circle smaller than required.



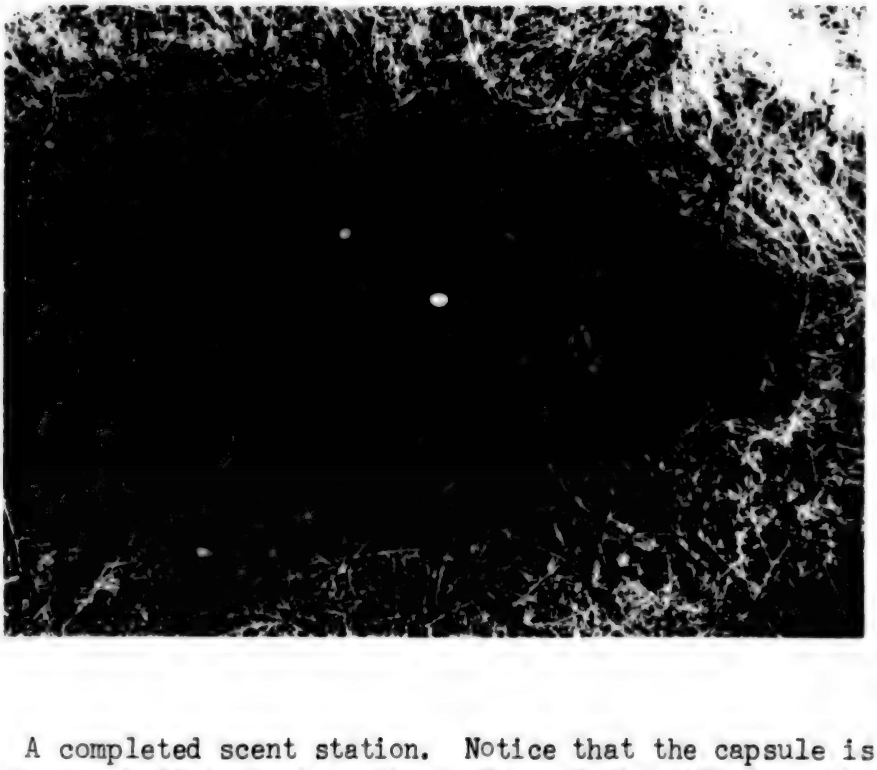
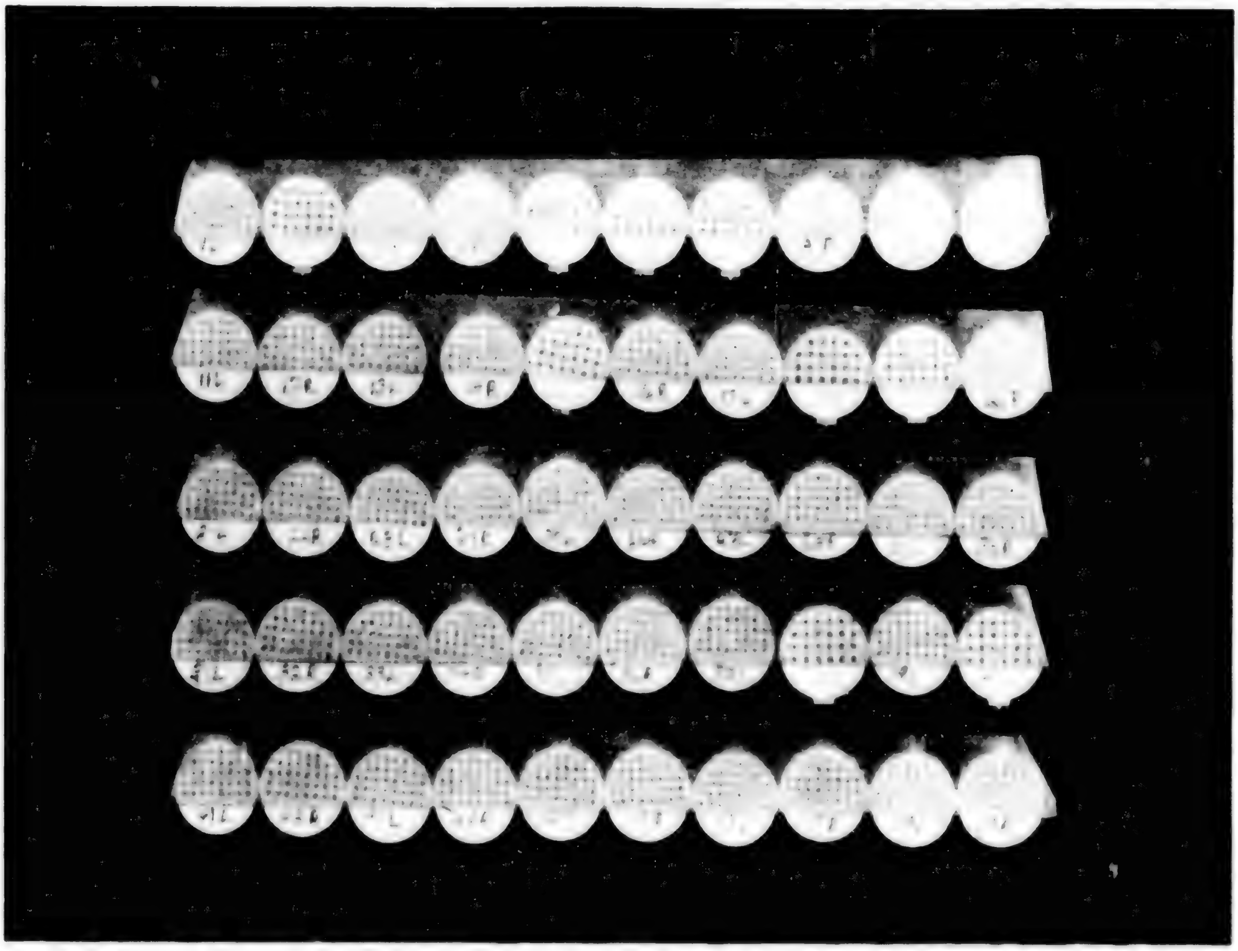


Figure 2. A completed scent station. Notice that the capsule is approximately one-half inch above the surface of the sifted earth.



The photograph above shows a good method of numbering and taping the scent capsules prior to setting out your predator survey line. Capsules can be "peeled" off the tape as you make each scent station, thereby making it almost impossible to misnumber the stations.

BEST DOCUMENT AVAILABLE

1979 AREA INFORMATION FOR PREDATOR SURVEY LINE

Observer__________________________ County and State______________________________

Line Name______________ Dates Survey Run____

I. LAND SURFACE (enter number): Primary_____________ Secondary________________

1. Flat	6. Canyon lands
2. Irregular or rolling	7. Badlands, river breaks
3. Sand dunes or sand hills	8. River or stream bottoms
4. Hilly, foothills, buttes, mesas	9. Shorelines (lakes, ocean)
5. Mountains	10. Other__________________

II. LAND USE (enter number): Primary_____________ Secondary________________

1. Livestock grazing	5. Mining
2. Farming	6. National refuge, national park, national grassland
3. Timber production, timbered national forests	
4. Military	7. Other__________________

III. VEGETATION (enter number): Primary_____________ Secondary________________

1. Conifer forest	8. Marsh
2. Broadleaf or deciduous forest	9. Agricultural croplands
3. Mixed conifer and broadleaf forest	10. Mixed agric. cropland and conifer forest
4. Shrubs	11. Mixed agric. cropland and broadleaf forest
5. Grasslands	12. Mixed agric. croplands and shrubs
6. Mixed forest and grasslands	13. Mixed agric. croplands and grasslands
7. Mixed shrubs and grasslands	14. Other______________________________

IV. COYOTE CONTROL

Degree of coyote population reduction achieved from July to June

(circle one): 1. none 2. poor 3. moderate 4. good

Degree of coyote damage suppression achieved from July to June

(circle one): 1. none 2. poor 3. moderate 4. good

Instructions

Complete one of these forms for each predator survey line. Fill in your name, county, state, line number, and inclusive dates you checked your survey line.

I. LAND SURFACE

This information refers to the land features or surface of the land in the general vicinity of your 15-mile survey line--whether it is flat, hilly, mountainous, etc. By general vicinity, we mean the land surface approximately 3 miles on either side and along the entire length of your survey line. It does not refer to the vegetation present. Select the appropriate category describing the primary land surface in the general vicinity of your line and enter the category number in the space provided. If a secondary (less prevalent) land surface category is also present, indicate the appropriate category number in the space provided. If none of the categories apply to your line, briefly describe as best you can after the category "Other."

II. LAND USE

This refers to the primary and secondary uses of the land in the general vicinity of your survey line. Indicate, by number, how the land is used. If none of the categories apply, indicate the type of use in the "Other" category.

III. VEGETATION

This refers to the primary and secondary predominant classes of vegetation in the general vicinity of your line (approximately 3 miles on either side and along its entire length). As an example, the major portion of your line may run through grasslands. You would therefore place the number 5 in the "Primary" space. However, in one or two places, the line runs through some pine forest (conifer forest). You would therefore enter the number 1 in the "Secondary" space provided.

Under some circumstances, none of the land surface, land use, or vegetation categories will fit conditions along some of the survey lines. When this is the situation, the "Other" category should be used.

IV. COYOTE CONTROL

Under this heading, you should estimate what, in your opinion, is the single best or most appropriate category. Again, consider the amount of coyote reduction or damage suppression in the general vicinity of your line during the period July through June Take into account control work carried out by stockmen as well as by government agencies.

By "coyote population reduction", we mean the extent or degree to which overall coyote numbers have been reduced in the general vicinity of your line. "Degree of coyote damage suppression" means to what extent stock killing has been affected by predator control activities during the period July through June.

If you have any questions concerning this questionnaire, ask your supervisor for help in filling it out.

Return this form, along with your five daily report forms, to your supervisor.

State ____________ County ______________ Line Name ____________ Date ________, 197

Weather conditions last night (circle one):
(1) Clear (3) Showers (5) Snow
(2) Cloudy (no rain) (4) Rain

Observer ______________________
Wind (circle one):
(1) No wind (3) Moderate
(2) Gusty (4) Strong

Nighttime temperature (circle one):
Hot (80°F or above) Moderate (33°F to 70°F) Freezing or below (32°F or lower)

Scent station number	Station condition	Coyote visit	Other animals visiting station	Scent station number	Station condition	Coyote visit	Other animals visiting station
1 (L)				26 (R)			
2 (R)				27 (L)			
3 (L)				28 (R)			
4 (R)				29 (L)			
5 (L)				30 (R)			
6 (R)				31 (L)			
7 (L)				32 (R)			
8 (R)				33 (L)			
9 (L)				34 (R)			
10 (R)				35 (L)			
11 (L)				36 (R)			
12 (R)				37 (L)			
13 (L)				38 (R)			
14 (R)				39 (L)			
15 (L)				40 (R)			
16 (R)				41 (L)			
17 (L)				42 (R)			
18 (R)				43 (L)			
19 (L)				44 (R)			
20 (R)				45 (L)			
21 (L)				46 (R)			
22 (R)				47 (L)			
3 (L)				48 (R)			
4 (R)				49 (L)			
25 (L)				50 (R)			

STATION CONDITION (Column two)

Enter either "-" or "1"
in column 2

- = Station in operating condition, tracks can be read, capsule may be present or absent

1 = Station inoperable, no possible way to read tracks (due to poor weather conditions, trampled by cows, run over by vehicle, etc.)

COYOTE VISIT (Column three)

Enter either "-" or "1"
in column 3

- = No coyote tracks at station

1 = Definite coyote tracks at station; if tracking conditions poor and there are tracks you cannot be sure are coyote, do not count them

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END

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